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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

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VOL VI.—1881.

WILLIAMS AND NORGATE,

14 HENRIETTA STREET, COVENT GARDEN, LONDON;

AND 20 SOUTH FREDERICK STREET, EDINBURGH.

1881.

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No. 21.] [January, 1881.

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I.—ILLUSIONS OF INTROSPECTION.

THE term Illusion is in science generally confined to errors of sense-perception. On the other hand in popular discourse it is extended to a number of other errors. Thus we speak of an illusion of memory, of an illusory idea respecting one's own character, and so on. If we try to discover what these errors have in common we appear to find that they are all semblances of immediate knowledge, by which I mean any variety of cognition which is not consciously based on some other cognition and which appears self-evident. The term illusion is thus opposed to fallacy which simulates the form of a conscious process of inference. Although psychology undoubtedly tends to assimilate all intellectual processes and to identify immediate and mediate knowledge, or, to use Lewes's expression, the logic of feeling and the logic of signs, as forms of one process, there appear to be certain advantages in marking off for separate treatment those errors which simulate the form of irresistible intuitions not obtained by any possibly precarious operation of reasoning. If for no other reason, these popularly recognised illusions may afford a specially valuable subject of investigation as presenting the forces which underlie all error in their highest intensity, in other words as constituting prerogative instances of these forces.

If we adopt the above definition of Illusion, we may roughly

mark off four possible varieties, namely, illusions (1) of (external) perception, (2) of introspection or internal perception, (3) of memory, and (4) of belief, the latter covering those erroneous 'self-evident' cognitions which are not included under any of the other heads and which resolve themselves into anticipations, definite or indefinite, and wider errors respecting the world, self, or human nature in general.

Each of these varieties can, I conceive, be dealt with most effectively by taking the first class, that is to say, the well-recognised class of sense-illusions as our type. An illusion of sense may be defined as a misinterpretation of a sense-impression resulting in a percept which is afterwards found not to correspond to the object actually present to sense. By interpretation must here be meant not only the taking up of the sense-impression into a percept by a synthesis of presentative and representative elements, but also the definition of the sense-impression itself so far as this depends on processes of discrimination, comparison and classification.

Illusions of sense or perception fall into two roughly distinguishable classes, Passive or *a posteriori* illusions, and Active or *a priori* illusions. The former owe their force to something in the sense-impression of the moment, to a powerful suggestion of a mental image by this, in relation to which the mind is comparatively passive. The latter owe their cogency rather to some pre-existing activity of the mind, to some preconception or form of expectation, which in relation to this resulting percept may, to adopt the useful expression of Dr. J. Hughlings Jackson, be called a process of pre-perception. As an illustration of each class I may take the alleged experiences of ghost-seers. A man may imagine that he sees a ghost either because he happens in the dark to see an object which accidentally bears a curious resemblance to an apparition as usually described, or because he is in a room which he knows bears the reputation of being haunted, and where consequently his imagination is busy shaping the representation of the object. In most illusions of perception both the elements of suggestion and preconception cooperate. Yet we may have a pure illusion of suggestion, and in a centrally originating hallucination we have clearly a pure illusion of preconception.[1]

Let us now pass to our special subject—Illusions of Introspection. By Introspection I mean here the mind's immediate reflective cognition of its own states as such. In one sense, of course, everything we know is a mental state, actual or imagined. Thus a sense-impression is known exactly as any other feeling

[1] I have worked out a scheme of Sense-illusion in an article headed "Illusions of Perception" in the *New Quarterly Magazine* of April last.

of the mind, as a mental modification. Yet we do not speak of introspectively recognising a sensation. Our sense-impressions are marked off from all other feelings by having an objective aspect, so that in attending to one of them our minds pass away from themselves in what Professor Bain calls the attitude of objective regard. Introspection is confined to feelings which want this objective aspect, and includes sensation only so far as it is viewed apart from external objects on its subjective side, as a feeling of the mind, a process which is next to impossible where the sensation has little emotional colour, as an ordinary sensation of sight or of articulate sound.

This being so, an illusion of introspection will in the main be sufficiently distinguished from one of perception. Even a hallucination of sense, whether setting out from a subjective sensation or not, always contains the semblance of such a sensation, and so would not be correctly classed with errors of introspection. One or two doubtful cases intermediate between the two groups will be touched on presently.

Just as illusions of introspection must be marked off from those of perception, so must they be distinguished from those of memory. It may be contended with some show of reason that, strictly speaking, all introspection is retrospection, since even in attending to a persistent feeling the mind is reflectively representing to itself the immediately preceding momentary experience of that feeling. In other words, to have a feeling and to know that we have it are not precisely the same mental conditions, the second being the immediate consequence of the first and constituting a more fully developed *intellectual* state. Yet supposing this view to be correct it does not hinder a broad distinction between acts of introspection and acts of memory. Introspection must be regarded as confined to immediately antecedent mental states with reference to which no error of memory can be supposed to arise. It would follow that illusions connected with the consciousness of personal identity would fall rather under the class of mnemonic than that of introspective error.

Once more, an illusion of introspection must be distinguished from one of belief. An error of the latter sort may have its origin in one of the former: thus a man's illusory opinion of himself may involve errors of introspection. By the latter as distinguished from the former I propose to mean only such errors as are connected with *single* acts of introspection. In relation to these such an illusion of belief would be viewed as a compound.

Finally, it is to be observed that our definition of an illusion of introspection serves to mark it off from a fallacy of introspection by the absence of anything like a conscious process

inference. Thus if we suppose the derivation by Descartes of the fact of the existence of God from his possession of the idea to be erroneous, such a consciously performed act of reasoning would constitute a fallacy rather than an illusion of introspection.

Thus far we have been concerned with settling the definition or determining the notion of an illusion of introspection: we have not yet inquired whether there answer to this ideal scheme any actual contents. We have now to pass to this question, namely, whether in observing and interpreting other mental feelings besides sense-impressions and their counterfeits, subjective sensations, anything analogous to sense-illusion ever happens.

If we define an illusion of perception as an erroneous projection of subjective ideas into the region of immediately present objective existence, we shall at once see that the idea of such an illusion may be extended to misinterpretations of the immediate subjective accompaniments of sense-impressions. Such illusions would form a connecting link between those of perception properly so-called, and illusions of introspection in a stricter sense supposing such to exist.

As our first example of such an error we may take the wrong attribution of beauty to external objects. I do not here raise the question whether there is any external quality independent of our minds answering to our sentiment of the beautiful, or whether in every case our projection of this sentiment into the region of objective existence is illusory: this is a philosophical rather than a psychological question. I may assume here that there are certain aspects of external things, certain relations of form, colour, together with certain associations, which are commonly recognised as the causes of the feeling of beauty, and popularly recognised as the embodiments of the quality. According to this view, illusion arises whenever an individual erroneously passes from a present feeling to the external object and calls this beautiful, thereby regarding it as a cause of a common aesthetic pleasure.

Now this error is very common. Our aesthetic impressions though agreeing up to a certain point do not agree throughout. Permanent differences of natural sensibility, of experience and of association make one thing highly interesting to one man while it is wholly uninteresting to another; and temporary fluctuations of mental conditions will make a thing seem beautiful to the same man at one time and not at another. Yet the deeply-rooted habit of taking an individual feeling as the representation of a common feeling, a habit which, as I have elsewhere observed, is no doubt connected with the strongest social instincts

of our nature, leads us invariably to give objective validity to our private and personal aesthetic preferences.

It is to be remarked that these errors roughly fall into the two classes of passive and active illusions. That is to say, the wrong ascription of a common aesthetic value to an object may arise either through a peculiar effect of the sense-impression or through the cooperation of an antecedent subjective disposition. The former class would be illustrated by the common attribution of objective beauty to things which delight us mainly through special individual suggestions, as when for example a man predicates a special beauty of his home scenery, or a mother of her favourite boy. Illustrations of the active variety would be found in those judgments which depend on a pre-existing condition of mind. Our enjoyment of nature or art is conditioned in part by our temporary mood or mental tone. There are moments of exceptional emotional exhilaration when even a commonplace landscape will excite an appreciable thrill of admiration; and in such a case we irresistibly tend to assign a corresponding degree of objective value to the scene. The error exactly corresponds to those illusions of sense which arise from overlooking the relativity of our sensations to the organic conditions of the moment. It may be said to be an illusion due to a temporary hyperaesthesis of the emotional organs.

What applies to the sense of beauty will, it is clear, apply to all other feelings excited by external objects. Nor is the error confined to those cases in which the object is fitted to touch a number of minds, such as the awful, the grotesque, the hideous and so on, but sometimes arises even in the instance of a distinctly personal feeling. Thus the fond mother instinctively attributes the many feelings of pleasure excited in her mind by the sight of her child in the form of certain lovable qualities to their exciting cause. In the very act of loving it she regards it as objectively lovable.

The other group of illusions standing between those of perception proper and those of introspection are errors connected with reading the external manifestations of the feelings of others, and generally with the interpretation of signs so far as it is immediate and not the result of a process of conscious reasoning.

To interpret the look or word of another is clearly a mental process very analogous to sense-perception. There is first of all a recognised sense-impression: and secondly the interpretation of this impression by help of a representative image; and both processes appear to be equally immediate or 'intuitive'. On the other hand there is a well-marked difference: for while perception proper is an imaginative reconstruction of external experiences, such as muscular and tactual feelings, interpretation

of signs properly so called takes place by a representation of subjective feelings. And further, and this is the chief point, in the latter case there is a distinct recognition of the fact that the feelings so represented are not our own, but belong to another consciousness.[1]

The errors incident to this process of immediate intuition of others' feelings or thoughts are familiar enough. Here again we may conveniently distinguish between a passive and an active form of the illusion. A passive illusion arises whenever through the force of an inseparable association a given external mark calls up a wrong interpretative image. In the reading of emotional expression the signal instance of this error is histrionic illusion. The assumption of the characteristic bodily attitude, gesture and tone of a passion, as anger, by a first-rate actor is powerfully delusive, since the fact is, according to the best authorities, that the actor cannot venture to give himself up to the particular emotion which he simulates. Another example of this illusion is not uncommon in everyday life. A man has some peculiarity of features, such as unusually elevated eye-brows, or a drawn corner of the mouth which irresistibly calls up some particular shade of feeling. Even when we grow accustomed to the peculiarity, such is the force of the impulse to project the suggested feeling that we continually tend to lapse into the silly error.

A similar error often happens with respect to the interpretation of language when this is used in an unfamiliar way. The often ludicrous oddity of a foreign language to one who visits the country in which it is spoken consists in the calling up of wrong meanings, namely such as have become associated with similar sounds in one's own language. The Englishman who visits Germany cannot for a long time hear a lady use the expression 'Mein Mann' without a half-belief that the person is specially dwelling on the fact of her husband's masculinity, and the function of support and protection attributed to the sex.

The more active errors connected with a wrong reading of feelings into other minds would furnish us with material for a long chapter. I can only just touch on one or two striking examples. It is a subject of common remark that a highly sympathetic nature, eager for the response of another mind, is predisposed to ascribe to those whom it meets utterly wrong sentiments. The extreme case of this error is of course that of

[1] We seem to want some scientific term to express this act of interpreting the mental states of others. The word 'read' is not precise enough. It is sometimes said that this interpretation is compounded of perception proper and introspection: but this does not seem to me to be an adequate account of the process. However this is, the reader will see my reasons for dealing with it before introspection proper.

the deluded lover who gazing into the eyes of a quite commonplace mistress 'intuites' by a fine spiritual sense a perfect reflection of his favourite aspirations and aims.

Again, the interpretation of nature by the anthropomorphic and the poetic fancy is clearly an example of an illusory projection of individual feeling. Sometimes this is due to some very remarkable degree of resemblance between the object and the human form: but in most cases the force of the illusion is due to a strong emotional predisposition in the spectator's mind. The lonely communer with nature, though he has turned his back on human sympathisers, tends to spread his deepest feelings over his inanimate surroundings. His longing, his sadness, his momentary delights seem to flash back upon him from the face of nature as from a mirror. And it is this strong emotional craving for sympathy which so often underlies those quaint poetic transformations of natural objects into living forms on which I had occasion to dwell when speaking of illusions of sense.

Finally it may be noted that this erroneous reading of individual feelings into other minds is exemplified in a good deal of current criticism of art. Thus a reader who feels in a particular way when reading a poem instinctively tends to project the feeling into the work and to regard it as the direct outcome of the author's mind. He recognises it, he will tell you, by an 'intuitive faculty'. Unfortunately it not unfrequently happens that two natures are affected differently by one and the same poem, just because they come to the reading of it with very different emotional predispositions and anticipations; and then there is the obvious difficulty of ascribing incompatible feelings to one and the same mind. A student of the 'higher criticism,' as it is called, may amuse himself by discovering instances of such contradictory emotional intuitions. And the same thing shows itself in the current modes of talking about music. It is a commonplace that the same music is felt very differently by different persons according to their emotional susceptibilities and dispositions. Starting from this well-ascertained fact, Mr. Gurney has recently argued with considerable ingenuity that much of the common reading of certain sentiments into musical composition as though they were in the composer's mind and consciously expressed themselves in his musical utterances is altogether illusory.[1]

In all these cases the illusion will of course have more of the active character if in addition to the pre-existing force of permanent habits of feeling there is some temporary concrete

[1] *The Power of Sound*, pp. 345 ff.

emotional impulse at work. Thus a man will more readily find sadness in a piece of music if he goes to listen to it in a sad mood.

Precisely the same thing shows itself in the more intellectual kind of interpretation, that of words. Our misapprehensions of others' thoughts are due in part to our permanent intellectual habits, in part to our temporary intellectual condition. To give an illustration of this last, the Section "On Language" in the fifth volume of Lewes's *Problems of Life and Mind* begins thus: "The great Lagrange," &c. Having the image of 'language' in my mind I read again and again "The great Language," puzzling over the sense, before I recognised my error.

It follows from what has just been said that when an external impression is one which suggests the existence of a particular feeling in another mind, and this is instantly recognised as a cause of some different feeling in our mind, the tendency to give objective reality to this cause will be exceptionally powerful, being compounded of the two forces just considered. And accordingly it is in this class of feelings, as gratitude, anger, contempt, &c., that we find some of the most coercive forms of illusion. The action of another that seems to be an intentional injury will often produce for a moment the faint illusion that we have been wronged even when evidence has completely satisfied our judgment that no injury was intended. The contrasting illusion is illustrated in those cases in which vain people tend to take as compliments words and actions which the slightest cool inspection would show to be quite innocent of any such intention. It is obvious that temperament and pre-existing habits of feeling, together with temporary conditions of mind, will greatly determine the character and force of these illusions in different cases.

It may be added that the powerful tendency of the anthropomorphic fancy to vivify and personify nature, which as we have seen rests mainly on the second of the two impulses just considered, is aided by the first as well. It is a familiar fact that when a man accidentally hits his foot against a stone or other obstacle he feels for the moment an irresistible impulse to be angry with the innocent offender, that is to say to vaguely represent the object as intending to injure him. And in quite a similar way our calmer emotions tend to construct causes for themselves in the shape of vaguely represented emotional dispositions and intentions in nature towards ourselves. Thus the deep pleasure which a beautiful natural scene imparts easily passes into the form of a sentiment of gratitude towards some friendly spirit of Nature.

But the reader may think that all this time we have been

dwelling on the confines of illusions of perception and have not touched as yet any errors of introspection properly so called. Allowing the force of this remark I will now pass to our proper inquiry, namely, whether there are any errors connected with the interpretation of subjective states of mind which do not arise as concomitants of the direct effects of external agencies, but appear as isolated subjective phenomena.

Now a mere glance at our everyday modes of describing internal states proper will show that there is something like a slight constant error in the ordinary process of introspection. Abstract reflection on subjective feelings is an art learned with considerable difficulty, and presupposes a fairly high degree of intellectual culture. Where this is wanting there is a manifest disposition to translate internal feelings into terms of external impressions. Not that the process approaches to one of hallucination; but only that the internal feelings are intuited as having a cause or origin analogous to that of sense-impressions. Thus to the uncultivated mind a sudden thought seems like an announcement from without. The superstitious man talks of being led by some good or evil spirit when new ideas arise in his mind or new resolutions shape themselves. To the simple intelligence of the boor every thought presents itself as an analogue of an audible voice, and he commonly describes his rough musings as saying this and that to himself. And this mode of viewing the matter is reflected even in the language of cultivated persons. Thus we say 'The idea struck me,' or 'was borne in on me,' 'I was prompted to do so and so,' and so on, and in this manner tend to assimilate internal to external mental phenomena.

Much the same thing shows itself in our customary modes of describing our internal feelings of pleasure and pain. When a man in a state of mental depression speaks of having 'a load' on his mind it is evident that he is interpreting a mental by help of an analogy with a bodily feeling. Similarly when we talk of the mind being torn by doubt or worn by anxiety. It would seem as though we instinctively translated mental pleasures and pains into the language of bodily sensations.

The explanation of this deeply rooted tendency to a slightly illusory view of our mental states is, I think, an easy one. For one thing it follows from the relation of the mental image to the sense-impression that we should tend to assimilate the former to the latter as to its nature and origin. This would account for the common habit of regarding thoughts, which are of course accompanied by representatives of their verbal symbols, as internal voices, a habit which is probably especially characteristic of the child and the uncivilised man, as it is also characteristic of the insane.

Another reason, however, must be sought for the habit of assimilating internal feelings to external sensations. If language has been evolved as an incident of social life, at once its effect and its cause, it would seem to follow that it must have first shaped itself to the needs of expressing those common objective experiences which we receive by way of our senses. Our habitual modes of thought, limited as they are by language, retain traces of this origin. We cannot conceive any mental process except by some vague analogy to a physical process. In other words, we can even now only think with perfect clearness when we are concerned with some object of common cognition. Thus the sphere of external sensation and of physical agencies furnishes us with the one norm or standard, and we instinctively view subjective mental states as analogues of these.[1]

Still it may be said that these slight nascent errors are hardly worth naming, and the question would still appear to recur whether there are other fully developed errors deserving to rank along with illusions of sense.

An examination of these last shows that in many cases the error involves not only a misinterpretation of a present impression but a misapprehension of the impression itself. Thus some of the illusions known as colour-contrast, the illusion of the stereoscope, and so on, may be said to rest on an inability to distinctly attend to and recognise the elements of sense-impression actually present. Now to this variety of sense-illusion there corresponds a number of errors of introspection. In point of fact, an illusion of introspection proper may in general be defined as a misapprehension of the contents of consciousness.

At first sight no doubt it looks as if the knowledge of a present feeling is absolutely certain. Yet a little consideration of the errors to which we are liable in detecting the quality of a present sense-impression may prepare us to find that the mind's internal eye is sometimes deceived. Introspection, so long as we confine our attention to a single well-defined and

[1] The reader will remark that this habit of giving an external material origin to subjective states is in a sense complementary to that instinctive tendency to attribute life and consciousness to inanimate objects of which I have already spoken. In an essay on "Poetic Imagination and Primitive Conception," published in the *Cornhill Magazine*, I have tried to show that both impulses have their explanation in the fact that our first knowledge was naturally of human beings (ourselves and others) with their two-sided nature bodily and mental, and that we make this our type or norm in regarding all forms of existence, material and mental alike. It would seem to follow from this that the representation of any mental state must at least be accompanied by a vague representation of one material object, namely our bodily organism, as a support for the particular feeling.

fairly intense feeling which can be supposed to remain constant for a short duration, is of course above suspicion. If I am suffering from intense mental depression a mere glance inwards will suffice to guarantee the existence of the feeling; and no stronger certainty is attainable than that thus reached. Yet the problem of introspective cognition is rarely as simple as this. Let us compare the process of self-observation with that of external perception.

First of all, it is noteworthy that a state of consciousness at any one moment is an exceedingly complex thing. It is made up of a mass of feelings and active impulses which often combine and blend in a most inextricable way. External sensations come in groups, too, but as a rule they do not fuse in apparently simple wholes as our internal feelings often do. The very possibility of perception depends on a clear discrimination of sense-elements, for example, the several sensations of colour obtained by the stimulation of different parts of the retina.[1] But no such clearly defined mosaic of feelings presents itself in the internal region: one element overlaps and partly loses itself in another, and subjective analysis is often an exceedingly difficult matter. Our consciousness is thus a closely woven texture in which the eye fails to trace the several threads or strands. Moreover there is the fact that many of these ingredients are exceedingly shadowy, belonging to that obscure region of subconsciousness which it is so hard to penetrate with the light of discriminative attention. This remark applies with particular force to that mass of organic feelings which constitutes what is known as cœnæsthesis or vital sense.

While, to speak figuratively, the minute anatomy of consciousness is thus difficult with respect to longitudinal sections of the mental column, it is no less difficult with respect to transverse sections. Under ordinary circumstances external impressions persist so that they can be transfixed by a deliberate act of attention, and objects rarely flit over the external scene so rapidly as to allow us no time for a careful recognition of the impression. Not so in the case of the internal region of mind. The composite states of consciousness just described never remain perfectly uniform for the shortest conceivable duration. They change continually, just as the contents of the kaleidoscope vary with every shake of the instrument. Thus one shade of feeling runs into another in such a way that it is often impossible to detect its exact quality; and even when the character of the feeling does not change, its intensity is undergoing alterations so that an accurate observation of its quantity

[1] I need hardly observe that physiology shows that there is no separation of different elementary colour-sensations which are locally identical.

is impracticable. Also, in this unstable shifting internal scene features may appear for a duration too short to allow of close recognition. In this way it happens that we cannot sharply divide the feeling of the moment from its antecedents and its consequents.

The full import of these considerations can only be seen when we reflect on what is involved in a process of recognition, external and internal alike. It clearly involves first of all an act of attention, and this requires time, since it takes place by means of a process of focussing or adaptation, discriminative or selective. But again, this process of adaptation involves the bringing of the particular feeling under the proper representation; for even an internal feeling is intellectually cognised by means of a fusion of the representation of a feeling with the feeling itself. Now it is to be remembered that, when in the attitude of attending and framing the necessary representation, we necessarily pass out of this particular state of feeling which we were in before the process of recognition began. In other words, as observers of what is going on within us, we cannot be in the same mental condition as when not observing; there is a slight modification of the contents of consciousness whenever there is the direction of a deliberate attention to these contents. From all of which follows that it must be very easy to overlook, confuse and transform, both as to quality and as to quantity, the actual ingredients of our mental condition.

Hence there spring a number of small errors of introspection which, to distinguish them from others to be spoken of presently, may be called passive. These would include all errors in detecting what is in consciousness due to the intricacies of the phenomena, and not aided by any strong bias. For example, a mental state may fail to disclose its component parts to introspective attention. In the chemistry of mind results are often so blended as to become no longer distinguishable. Thus a motive may enter into our action which is so entangled with other feelings as to escape attention. The fainter the feeling the greater the difficulty of detaching it and inspecting it in isolation. Again, an error of introspection may have its ground in the fugitive character of a feeling. If, for example, a man is asked whether a rapid action was a voluntary one, he may easily in retrospection imagine that it was not so, when as a matter of fact the action was preceded by a momentary volition. Such transitory feelings which cannot at the moment be seized by an act of attention are pretty certain to disappear at once, leaving not even a temporary trace in consciousness.

It is to be observed that this confusing of elements of consciousness involves a species of error closely analogous to an

illusion of perception which depends on a misinterpretation of a sense-impression. This is illustrated in the case in which a feeling or emotion is confounded with some inference based on it. In the more vulgar form of this error, there is an 'intuition' of something supposed to be immediately given in the feeling itself. For instance, a man whose mind is thrilled by the pulsation of a new joy exclaims 'This is the happiest moment of my life,' and this assurance seems to be contained in the very intensity of the feeling itself. Of course cool reflection will tell him that what he affirms is merely a belief the accuracy of which presupposes processes of recollection and judgment, but to the man's mind at the moment the supremacy of this particular joy is immediately intuited. And so with the assurance that the present feeling, for example of love, is undying, that it is equal to the most severe trials, and so on. A man is said to *feel* at the moment that it is so, though as the facts believed have reference to absent circumstances and events it is plain that the knowledge is by no means intuitive. In this way our emotions in the moments of their greatest intensity carry away our intellects with them, and throw into confusion the region of truth and certainty and of pure imagination, and even the narrow domain of the present and the vast domain of the past and future. At such moments differences of present and future may be said to disappear and the energy of the emotion to constitute an immediate assurance of its existence absolutely.[1]

We will now pass to the consideration of other illusions of introspection more analogous to the active illusions of perception. In an examination of these we find that a pure representation may under certain circumstances simulate the appearance of a presentation, that a mental image may approximate to a sense-impression. In the case of the internal feelings this liability shows itself in a still more striking form. The higher feelings or emotions are distinguished from the simple sense-feelings in being largely representative. Thus a feeling of contentment at any moment, though no doubt conditioned by the bodily state and the character of the organic-sensations or cœnæsthesis, commonly depends for the most part on intellectual representations of external circumstances or relations, and may be called an ideal foretaste of actual satisfactions, such as the pleasures of success, of companionship, and so on. This being so, it is easy for imagination to call up a semblance of these higher feelings. Since they depend largely on representation, a mere act of

[1] It is evident that when the mind wrongly passes from a present feeling to something remote in time, the error approaches to the class of illusions of belief.

representation may suffice to excite a degree of this feeling hardly distinguishable from the actual one. Thus to imagine myself as contented is really to see myself at the moment as actually contented. We should expect from all this that in the act of introspection the mind is apt, within certain limits, to find what it is prepared to find. And since there is in these acts often a distinct wish to find some particular feeling, we can see how easy it must be for a man through bias and a wrong focussing of his attention to deceive himself up to a certain point with respect to the actual contents of his mind.

Let us look at one of these active illusions. It would at first sight seem to be a perfectly simple thing to determine at any given moment whether we are enjoying ourselves, whether our emotional condition rises above the pleasure-threshold or point of indifference and takes on a positive hue of the agreeable or pleasurable. Yet there is good reason for supposing that people not unfrequently deceive themselves on this matter. It is perhaps hardly an exaggeration to say that most of us are capable of imagining that we are having enjoyment when we conform to the temporary fashion of social amusement. It has been cynically observed that people go into society less in order to be happy than to seem so, and one may add that in this semblance of enjoyment they may, provided they are not *blasés*, deceive themselves as well as others. The expectation of enjoyment, the knowledge that the occasion is intended to bring about this result, the recognition of the external signs of enjoyment in others, all this may serve to blind a man in the earlier stages of social amusement to his actual mental condition.

If we look closely into this variety of illusion, we shall see that it is very similar in its structure and origin to that kind of erroneous perception which arises from inattention to the actual impression of the moment under the influence of a strong expectation of something different. The representation of ourselves as entertained dislodges from our internal field of vision our actual condition, relegating this to the region of obscure consciousness. The essence of self-deception may be said to be the holding of a representation in the upper region of clear consciousness so as to cover from view something below it. Could we for a moment get rid of this representation and look at the real feelings of the time, we should become aware of our error; and it is possible that the process of becoming *blasé* involves a waking up to a good deal of illusion of the kind.

Just as we can thus deceive ourselves within certain limits as to our emotional condition so we can mistake the real nature of our intellectual condition. Thus when an idea is particularly grateful to our minds we may easily imagine that we believe it

when in point of fact all the time there is a subconscious process of criticism going on, which if we attended to it for a moment would amount to a distinct act of disbelief. The rationale of flattery, which is not ineffective even with really intellectual men, seems to be that it disposes the flattered person to indulge the pleasant half-illusion that the words are true, even when careful reflection must show that they are an exaggeration. That is to say, the flatterer's assertion calls up a vivid representation which for the moment simulates the form of a belief.

It is plain that the external conditions of life impose on the individual certain habits of feeling which often conflict with his personal propensities. As a member of society he has a powerful motive to attribute certain feelings to himself, and this motive acts as a bias in disturbing his vision of what is actually in his mind. While this holds good of lighter matters as that of enjoyment just referred to, it applies still more to graver matters. Thus, for example, a man may easily deceive himself that he feels a proper sentiment of indignation against a perpetrator of some mean or cruel act, when as a matter of fact his feeling is much more the personal one of compassion for the previously-liked offender. In this way we impose on ourselves, disguising our real sentiments by a thin veil of make-believe.

The great region of this kind of illusion is that of the moral and religious life. With respect to our real motives, our dominant aspirations, and our highest emotional experiences, we are liable to deceive ourselves. The moralist and the theologian have clearly recognised the possibilities of self-deception in matters of feeling and impulse. To them it is no mystery that the human heart should mistake the fictitious for the real, the momentary and evanescent for the abiding. And they have recognised, too, the double source of these errors, in the powerful disposition to exaggerate a present feeling on the one hand, and on the other hand to take a mere wish to feel in a particular way for the actual possession of the feeling. Men of deep religious natures and given to introspection and self-scrutiny have again and again confessed to their weakness in separating the wheat of sincere impulse from the tares of spurious sentiment. And the morbid melancholy to which this habit of self-anatomy when indulged in to excess often leads sufficiently illustrates the uncertainties which characterise the process of moral self-anatomy.

The opinion of theologians respecting the nature of moral introspection presents a singular contrast to that entertained by some philosophers as to the nature of self-consciousness. It is supposed by many of these that in interrogating their

internal consciousness they are lifted above all risk of error. The 'deliverance of consciousness' is to them something bearing the seal of a supreme authority and must not be called in question. And so they make an appeal to individual consciousness a final resort in all matters of philosophical dispute.

Now on the face of it, it does not seem probable that this operation should have an immunity from all liability to error. For the matters respecting which we are directed to introspect ourselves are the most subtle and complex things of our intellectual and emotional life. And some of these philosophers even go so far as to affirm that the plain man is quite equal to the niceties of this process.

It has been brought as a charge against some of these same philosophers that they have based certain of their doctrines on errors of introspection. This charge must of course be received with some sort of suspicion here, since it has been brought forward by avowed disciples of another philosophic school. Nevertheless as there is from our present disinterested and purely scientific point of view a presumption that philosophers like other men are fallible, and since it is certain that philosophical introspection does not materially differ from other kinds, it seems permissible just to glance at some of these alleged illusions in relation to other and more vulgar forms.

These so-called philosophical illusions will be found like the vulgar ones just spoken of to illustrate the distinction drawn between Passive and Active illusions. That is to say, the alleged misreading of individual consciousness would result now from a confusion of distinct elements, including wrong suggestion, now from a powerful predisposition to read something into the phenomena.

A kind of illusion in which the passive element seems most conspicuous would be the error into which the interrogator of individual consciousness is said to fall respecting simple unanalysable states of mind. On the face of it, it is not likely that a mere inward glance at the tangle of conscious states should suffice to determine what is such a perfectly simple mental phenomenon. A study of the limits of discrimination with respect to simultaneous sensations would lead us to expect that the feelings and ideas which enter consciousness together must tend to blend inseparably in apparently simple states. Accordingly, when a writer declares that an act of introspection demonstrates the simple unanalysable character of such a feeling as the sentiment of beauty or that of moral approval, the opponent of this view clearly has some show of argument for saying that this simplicity may be altogether illusory. Similarly when it is said that the idea of space contains no

representations of muscular sensation, the statement may clearly arise from an inability to analyse the idea.[1]

In most cases of these alleged philosophical errors, however, the active and passive factors seem to combine. There are certain intricacies in the mental phenomenon itself favouring the chances of error, and there are independent predispositions leading the mind to look at the phenomenon in a wrong way. This seems to apply to the famous declaration of a certain school of thinkers that by an act of introspection we can intuite the fact of liberty, that is to say, a power of spontaneous determination of action superior to and regulative of the influence of motives. It may be plausibly contended that this idea arises partly from a mixing up of facts of present consciousness with inferences from them, and partly from a natural predisposition of the mind to invest itself with this supreme power of absolute origination.[2]

In a similar way it might be contended that other famous philosophic dicta are founded on a process of erroneous introspection of subjective mental states. In some cases indeed it seems a plausible explanation to regard these illusions as mere survivals in attenuated shadowy form of grosser popular illusions. But space forbids my entering on these, which, moreover, hardly fall perhaps under our definition of an illusion of introspection.

In drawing up this rough sketch of the Illusions of Introspection I have had no practical object in view. I have tried to look at the facts as they are apart from any conclusions to be drawn from them. The question how far the liability to error in any region of inquiry vitiates the whole process is a difficult one; and the question whether the illusions to which we are subject in introspection materially affect the value of the introspective method in psychology, as many affirm, is too subtle a one to be treated now. It must suffice to say that I do not think it does any more than the risk of sense-illusion can be said materially to affect the value of external observation. The obvious difference is that in the latter we are face to face with a common object of inspection, whereas in introspection we are attending to what is individual and private. For this reason individual

[1] I find that after practice I recognise this ingredient much better than I did at first. And this exactly answers to Helmholtz's contention that elementary sensations as partial tones can be detected after practice. Such separate recognition involves correct representation. On the other hand it must be allowed that the intuitionist may say that the empiricist is here reading something into the idea which does not belong to it.

[2] I may as well be frank and say that I myself, assuming free-will to be an illusion, have tried to trace the various threads of influence which have contributed to its remarkable vitality. See *Sensation and Intuition*, Chapter v., on "The Genesis of the Free-Will Doctrine".

errors are much less easily rectified in the latter region than in the former. This is the characteristic difficulty of the introspection method. Yet even our subjective experiences are found within certain limits to agree one with another, and in the multitude of observers there is an approach to objective certainty. And though it cannot be said that introspection has yet become a very perfect scientific instrument, it is to be remembered that it is a comparatively new acquirement of the race, which may be expected to gain in precision as evolution advances.

JAMES SULLY.

II.—OUR CONTROL OF SPACE AND TIME.

PHILOSOPHERS have, as a rule, been so much occupied with inquiring into the origin and necessity of our notions of space and time, that they have generally passed over the somewhat humbler task of inquiring what are the nature and limits of our actual control over each of these entities. And yet it may be argued that hardly any inquiry can be of more importance from a speculative point of view; at any rate for the logician, whatever it may be for the metaphysician. For is not almost all the knowledge we possess a result of inference? and is not the result of inference generally reducible to, or at least expressible as, some real or imaginary change in our place or time? The wonderful complexity and ingenuity of the processes to which we have to resort, in order to attain to the aim as just indicated, tend very much in the case of most persons to obscure the real simplicity of that aim from view. But let us take a very simple example. There is a tree at the bottom of my garden, and I want to know how far off it is, and to what species it belongs. I can settle the former question roughly, in a few seconds, by pacing the distance, or with tolerably complete accuracy, in a few minutes, by the help of a measuring rod or line. The latter question is settled with equal ease, supposing of course that I have the requisite prior experience and knowledge to draw upon, by just going up to the tree and looking at its flower and leaves.

If however the tree happens to be on the other side of a river which I cannot cross, then I have to resort to calculation or inference for the purpose. Of course it would be much simpler and more satisfactory to go and look at the tree still, if I could only do so. But failing in this I have to set about 'inferring'. To decide the distance I appeal to some sort of trigonometrical

considerations; and to decide the species I gather up what help I can from the hints furnished by the size and shape of the tree, the time of coming into leaf, the colour of the flowers; or perhaps, if I am lucky, a bit of leaf or blossom may be blown within reach of me. But so great is our triumph, and so complete sometimes our success in finding elaborate substitutes for a simple walk or change of place, that we are very apt to overlook how almost ridiculously simple the end we aim at would often be, if only our faculties of locomotion were less restricted than they unfortunately are at present. There are myriads of facts about which if any doubt is felt it is dispelled at once by some one just going to look at the things; there are myriads of other facts, in all essential points often just as simple, which because unfortunately we cannot 'go and look at them,' task the highest powers of thought of our greatest philosophers, and the most exquisite skill of our instrument makers. If we want to know how hot it is at the Antipodes we go there ourselves, or send some one else there, with a thermometer. But if we want to know how hot it is half way there, *viz.*, at the centre of the Earth, or indeed whether it be very hot at all there, we are led into the most intricate questions of physics and mathematics, through which at present we can find no certain way.

Similar considerations apply also to the case of time, and, if possible, even more strongly; for here, for one reason or another, we seem to be more prominently occupied with the mere description of events (which is equivalent to their direct observation) and less on the whole with their analysis and generalisation. Very many of the facts which the ordinary historian toilsomely works out by elaborate comparison of records, and inference in filling up the gaps which they leave between them, are such as he could settle almost at once and completely to his satisfaction, if only he could just step back into the time in question. It may be replied that though he cannot go to the events the events can come to him, through the testimony of witnesses and other records. It is clear however that this one-sided process is a very poor substitute. The witness is not of our own selection: perhaps he does not know what are the important points which he ought to observe; and, one may almost say, he knows that he cannot be cross-examined, and is therefore subject to hardly any check. A few hours spent in personal observation upon the spot by a critical historian himself, would sometimes be worth a whole volume compiled by contemporary witnesses. This must especially be the case where we are concerned with general dispositions and tendencies rather than specific facts. People have disputed, and will continue to dispute, for instance, whether and to what extent our age is more moral than former

ages. What a light we should gain upon this point if only some London police magistrate, some doctor in general practice, or some shrewd man about town, could go, with proper introductions, into some other century, and live for a few months on easy terms with its inhabitants!

But many of the past facts which we want to decide can rest upon no personal testimony. We cannot appeal to the witness, because he was never there. And yet the facts themselves may be of just the same kind as those every-day phenomena in the decision and estimate of which any ordinary person is nearly as good a judge as any other. Such inquiries as whether the earth was once fluid, whether the glacial period prevailed more than once, and how far southwards it extended, are not in themselves more difficult of decision than to decide whether the lava from some volcano is fluid, or whether there are two winters annually in the Arctic regions. So far as any difficulties in the phenomena themselves are concerned, apart from our means of getting to know them where we are now, these questions could be settled at once by any witness as good as an ordinary skipper, without the least hesitation or doubt. He would merely have to tell us what he had seen and felt, and the matter would be set at rest at once.

The foregoing considerations are obvious enough when pointed out; and they would probably be perfectly familiar to every one, were it not that, as already remarked, the excessive ingenuity and complication of the various substitutes which have been discovered for the unattainable visit of observation tend to conceal from view the extreme simplicity of that end in itself. In saying this it is not intended to imply that the processes of inference at all resemble observation. On the contrary many of them are of a highly abstract and generalised kind, and they are mostly carried on more or less symbolically. But they ground or result in an imaginary observation. This is also the form which their concrete applications take, and we may fairly say that we have not attained a proper grasp of them until we can mentally reproduce them in this way. We must be able to individualise or picture the results to ourselves before we can be said properly to know them, and to do this is clearly to take an imaginary observation of them.

We may see then already how important would be a complete control over space and time, as for want of a better form of expression we have ventured to call it, for all purposes which concern our inferences. Any such control, if really complete, would tell at once by superseding all need for observation; for why carry on in our study a painfully elaborate and circuitous process when the direct process for which it was

meant to be a substitute was itself within our power? And indirectly it also tells in the same way by both strengthening and simplifying the processes of reasoning. The wider the basis of observation from which we start the better grounded, as a rule, are our conclusions, and the shorter the processes of getting at them. Every bit of extra power therefore that we could gain over these two all-pervading conditions of things would diminish the sphere and lighten the work of inference. Before looking closer at the details, let us just ask in a word or two what it is that we wish for; in other words, what are the requirements for that power of observation which if complete would render all inference superfluous, and which in proportion as it approximates towards completeness so powerfully aids our inferences? These requirements seem reducible to the two following—regard being had to the nature of our faculties and the general conditions under which we have to employ them: power to move about as freely as we may wish in space or time, and power to enlarge space and time to any extent we may need. The sense in which this latter requirement has to be understood will be more fully discussed in the sequel.

Let us begin with the former, *viz.*, our power of locomotion (the reader will observe that we are obliged to use, in many cases, space-words for time-ideas, and *vice versâ*, from inadequacy in ordinary terminology). What our powers are in this respect as regards space, every one knows. Within very small limits we can move ourselves, or the objects with which we are concerned, up and down and about, in three dimensions, as we please. Within wider limits, *viz.*, that of the surface of the globe, we are restricted to two dimensions. Beyond that again we are hampered still further by being confined to one dimension only, our motion along that even being quite beyond our own control. This of course refers to the motion of the earth round the sun, or any further motion that our system may have through space. Even this however, as an aid to knowledge, counts for something, so that we should not receive it without gratitude; for some of our knowledge of the shape and magnitude of the visible heavens depends more or less upon this power of linear movement.

But though every one knows the nature and limit of our powers in this respect, it is only those who have given some attention to psychology who can at all realise their importance in the processes of gaining knowledge, or the extent therefore to which our powers of inference are crippled by their very partial and one-sided development. Let us then take an example and look at it a little more in detail; and instead of beginning with some broad and concrete circumstance or aggre-

gate of circumstances, it will be better to commence with a minute one. I am inspecting some small object, say a penknife of unfamiliar construction, and I want clearly to understand its mechanism, size and shape. How is it that I am able to do this so completely and accurately? Mainly on this ground, that I am able to turn it about at will so as to present any face towards me, and to put it at any required distance far or near. With this, however, must be combined an important consequence of this power of adjustment, *viz.*, the power of looking at the same point of the object again and again as often as we please. This consideration is a very important one. My actual range of observation, as every one knows, is at any one moment extremely minute, almost indefinitely so, the merest point only being presented to the eye. But by running the eye repeatedly over the main outlines, by frequent recurrence to points already once looked at so as to bring them into connexion with the remaining points, we succeed in building the various parts up into one connected whole. We then consider that we have understood or taken the whole object in. To attain to this end it clearly does not much matter whether the power of local movement is on our side or that of the object, whether we turn about it or make it turn all sides to us. Motion being merely relative, either of these amounts to that control of space of which we are talking; and it is generally more convenient, when we can do so, to move the object rather than to move ourselves, for much the same reasons as make the turner prefer that the object should rotate under his tool rather than he be at the trouble of moving his tool round the object. But without this power of freely moving the thing relatively to ourselves or ourselves relatively to the thing, we should have extremely slight opportunities of getting familiar with the mutual arrangement of the various parts of any object small or great.

Now this state of powerlessness represents almost exactly our relation to events in respect of time. We are bound, as we all know, to go steadily forwards: we have no power to stand still, go sideways or backwards. It is easy to perceive how serious a hindrance is thus caused in our investigations. Suppose we are examining some small time-event. If it present itself in the form of some process which is entirely within human control we may probably be able to stop it altogether at some arbitrary point, or to invert its order of occurrence. This comes to very much the same thing as being able to turn the pen-knife over in our hands—in point of fact we are making use of our superior powers of space-locomotion and are substituting movement here for movement in time. The comparison therefore is not quite a parallel one; for it is not really the *same* event which we thus

turn about temporarily, but only an exactly similar one. It is as if we had no power to move our knife, but by looking about the room could observe any quantity of other knives differently disposed close by, but all exactly similar in their construction. We should thus contrive to supplement our impressions gained from one of them by those gained from the others. When however the operation under observation is a natural one, and therefore outside of our direct control, we are in general quite powerless to do anything of this kind. It is a very difficult thing to find what would popularly be called the 'same event' twice over—that is, two distinct events alike in all essential respects, but differing from one another by being each of them in exactly the desired stage of development. Different stages of development can often be secured readily enough, but they labour under the essential defect of discontinuity: that is, we cannot secure any desired exact intermediate stage at will: to say nothing of the obvious difficulty of securing that they shall really be alike in all other essential particulars. Suppose, for instance, we are examining the process of germination of a seed. We may find it the best plan to grow a great many of them, and then select some of them for examination, thus securing that there shall be some of them in almost all the successive stages of development. But this seems to fall just as far short of what we really want as would an offer to look at a variety of knives, very much like one another, lying in various directions about the room, but without permission to stir from our position or touch any one of them, fall short of the advantage of handling any one of them at leisure, and turning it about into any desired position. What a gain, for instance, it would be to any student, say of embryology, if he could put his object under a microscope and then shift it a few minutes or hours forwards or backwards in time according to his choice! Forwards of course he can go, or rather must go, as things are now, provided the processes in question are not brought to a stand-still by means of the observation itself. But apart from the tedious uniformity of the pace with which that progress may now be carried on, there is the fatal defect that we cannot pause at the critical stages, and recall and re-observe them at our leisure. What we want is the power to stop still and to go backwards whenever we please. Compare the position of a man who has got an intricate argument in writing before him, with that of one who can merely listen to it as it is repeated to him in order, and we shall realise the difference between what our powers of observation now are and what they might have been had these things been other than they are. What we want in fact is a microscope with a double set of stage-screws; one set to move the stage about as is now done,

in respect of space, and the other set to move it about in a similar way in respect of time. A very small range of such movement would answer our purpose. Many an intricate question which has puzzled physiologists and others for years, might then probably be cleared up in a few minutes; for no one needs to have it pointed out to him how much easier it is to keep the same object continuously in view under a slow movement of any kind, than it is to detect and recognise it, or rather something else very much like it, amidst a crowd of varying circumstances which only permit an occasional glimpse.

Physical speculators have not unfrequently indulged in fanciful modes of attaining the equivalent of such a power as that just indicated. Since light travels with finite velocity, we are at liberty to conceive an object moving so fast as to outstrip it. Suppose a human eye receding from our system into space with a velocity greater than that of light, and occasionally pausing for a moment so as to permit the rays from the objects which it was leaving behind to overtake it and record their impression. We should then invert, so far as that eye was concerned, the relative course of events, and this would be, so far as all visual considerations applied, precisely that regression into past time which is desired. Doubtless the object in question would thus become diminished in size, and perhaps dimmed in brightness, at a most prodigious rate. But in spite of this it might still be possible thus to make out certain features such as the change of colour in some of the fixed stars, or the relative change of place in some of those which were double. Sound waves of course travel with far less rapidity; and accordingly similar considerations, though leading here also to very wild fancies, do not yield quite *so* wild fancies as those involved when we try to meddle with light. Projectiles from some of our great guns actually do outstrip the sound of their discharge. If therefore one of these were gifted with an ear and the requisite consciousness, the first thing which it might hear that in any way concerned itself, when it had come to rest and recovered itself, might be the noise of its flight through the air, followed by the sound of its own discharge, and finally by the word of command to discharge it.

But power to move about as we please in space or time is clearly only one of our requirements. Suppose we have succeeded in placing ourselves right opposite to the thing, or contemporaneous with the event, it may still be too small, or too brief, or possibly too large or too slow for our purposes. Observation is conditioned by the nature and limits of our faculties, and it is no good being in close proximity to a thing if our faculties are unable to take it in. One great difficulty

consists, it need not be said, in the fact of the phenomena needing magnification; in their being, that is, too small for observation. Abstractedly considered, therefore, the alternative before us, as regards this desideratum, is either to make the thing itself really or apparently larger, or to make ourselves smaller. It would often be highly convenient to us if we could succeed in the latter object (for what opportunities of observation, concealed from us, the minuter insects must enjoy; and how much they could tell us about the constitution of various bodies—cell-structure and so forth—if only we could strike out some means of communication with them!). Failing this, however, we have to resort to the former plan, *viz.*, that of making the thing bigger. But here popular language, and not improbably popular thought also, is somewhat confused. We do not actually magnify objects; that is, enlarge their real dimensions in space. At least we do not do this intentionally and for purposes of observation; for the change thus producible, though real as far as it goes, is far too slight to be of any practical service. Heat an object, and of course it grows larger; and its various characteristics are, to that extent, more easily decipherable. But whatever may be the importance of taking into account such considerations as these when we have to deal with large iron constructions, such as railway bridges, &c., no one would think of appealing to them to furnish any practical aid in our processes of observation. What therefore we have to do instead is to enlarge the effect which the object produces upon us; that is, to enlarge what we may call the image which it produces upon our organs of sensation.

When we thus shift the proposed alteration of size from the object itself to the effect produced by it upon our various senses, we have at first sight an apparent promise of riches which is by no means fulfilled in practice. For we possess a variety of senses, and it might be suggested that we should take each of these in turn and magnify the impression which we obtain of an object by means of it. But any such hope is soon seen to be illusory. To begin with, only two of our senses give us much service in the way of estimating space-relations—*viz.*, sight and touch; the other senses being of very little use in this respect. And moreover, as it unfortunately happens, one of these, *viz.*, touch, has proved itself quite incapable of any such refining process as we have just now in view. Hence it comes to pass that our sole reliance in this respect has to be based upon the sense of sight.[1]

[1] It need hardly be said that we are here speaking solely of *direct* appeals to sensible testimony. Of the many indirect methods which are available,

What we can do in this way as regards space has been rendered familiar to almost every one, for nobody with any rudiment of cultivation can have failed to often handle a telescope or microscope. Accordingly we need devote but very few words of explanation here, and they will only be expended in order to draw attention to, and render more simple, the less familiar parallel application to time. Now if any one were asked, taking the current signification of the word 'magnify,' whether we can do the same here for time that we can for space, what would he probably reply, as soon as he had realised the nature of the question proposed to him? Most likely he would give a decided negative; and, if asked his reasons for saying so, the instance of the microscope would very probably furnish the most appropriate example in illustration. Every one who has ever had to look at living things through a microscope will be aware how much their apparent motion is affected thereby. He will be familiar with the curious rapidity with which the smaller organisms, animal or occasionally vegetable, shoot across the field of view. They move apparently with extreme velocity, so that we have sometimes to deaden them, or at least to do something to hinder the vivacity of their movements, if we want to secure a sufficiently steady look at them. This apparent velocity may of course be explained by saying that we have magnified the interval of space through which they move, but have not altered the corresponding intervals of time. Hence of course the velocity which depends upon the ratio of one of these elements to the other, has been made apparently much greater than it really is.

Such an answer is abundantly sufficient for all practical purposes, but as we happen just now to be almost wholly in the regions of speculation rather than in those of practice, it will be necessary to look a little more closely into the matter. We must ask again then, what exactly do we do when we magnify an object? As every one who has any acquaintance with optics is aware, all that can be secured by any combination of lenses, whether they take the form of telescope, microscope, or opera-glass, is an enlargement of the area on the retina which is occupied by any minute part of the object presented to us. So far as we are concerned this comes to just the same thing as if the object itself were actually enlarged; it being of course insisted on that every element of the object shall be similarly treated, so as to prevent any kind of distortion.

This, it will be observed, concerns only the sense of sight. As already remarked, the sense of touch cannot be aided by any

such as resort to more refined measurements, employment of electricity substitution of time for space in measurement and *vice versâ*, and so forth, we here take no note.

corresponding process of assistance. This is greatly to be regretted, for the gain to our knowledge would be enormous were any resource of the sort available. For instance I look at a pebble and at the same time I handle it. The two senses co-operate here, the sight and the touch; the latter being in many respects the most powerful and trustworthy of the two. Either by itself would be fallacious and easily misled, but taken together, so as mutually to aid and correct one another, they concur in making up our information about the object. But suppose it were some microscopic object, say a diatom instead of a pebble, which was under our observation. What an immense gain it would be if I could handle this also on a larger scale, with the same success as I can look at it on a larger scale! Questions which have often puzzled observers, for instance, whether certain marks upon their surface are ridges or not, would then be instantly set at rest. The case however seems hopeless, even to the imagination, which is saying a good deal—for the deficiency arises out of that which constitutes the main excellency of the sense in question. The difference consists of course in this, that we see by means of a medium, and it is this medium of which the microscope is able to make use for its purpose. But in touching the object we come into direct contact with it (all metaphysics apart), and there is therefore no available means by which the subjective effect can be made more delicate in the way desired.

Now let us turn to *time*, and see what there is here, corresponding to the same state of things. To begin with, can we actually magnify a thing—or rather an event as it would be more appropriately called—that is, can we make it take a longer time in happening? Of course we can, and to a very much greater extent than was possible in the corresponding case of space. We must of course remember that what was demanded in the former case was not merely enlargement in general, but uniformly proportional enlargement throughout. So what we want here is uniform diminution throughout in the speed with which the process is performed: otherwise we should be hindered by what may be termed time-distortion or warping. A moment's reflection will remind us how very frequently we can secure this end, at any rate to some extent. When we are dealing with time it is events or processes, rather than things, with which we are concerned, and many of these may consist of our own performances. Most processes over which we have any sort of control can be gone through more or less slowly, and some of them can be performed just as slowly as we please. And, what is very important, we can make sure that the second performance is so exactly the repetition of the former, except in

the point of speed, that we can really speak of it as being in popular language the 'same' event over again. These remarks apply especially to the cases in which mere motion is under consideration; as if, for instance, we wished to observe the exact path traced out by a point on a swiftly moving wheel, or the mutual relation of the different portions of some complicated machine. But when we come to considerations of force and have to reckon with mass and gravity, even in the simplest kinds of action, we lose much of this control. If projectiles could be made to move as slowly as we please, men would not have remained so long in doubt as to the nature of the path traced out by them; nor would artillerists even now be uncertain as to the direction of the axis of an elongated shot during the course of its flight. If a horse could be trotted or galloped as slowly as we please we should instantly be able to settle the vexed question as to how many legs he has upon the ground at one and the same instant. But, after all such exceptions, this particular power over time is greater than that over space. When it is merely a question of making a thing take place more slowly we can often succeed in doing so to any extent we please, without the slightest fear of producing distortion.

But, notwithstanding this, when all is done that can be done, there still remains a very large field of events quite beyond our own control, and in which the rate of change is so great, or the time occupied so short, that our powers of observation are altogether baffled. In these cases therefore we sadly need some instrument, corresponding to a microscope, which shall be contrived so as to diminish the rate at which the successive brief and rapid changes in the stages of an event reach our organs of sense. Transferring the language appropriate to one order of considerations into the domain of the other, we may say that the power of magnifying a few thousand diameters in time would often be of enormous service to us. It would make the greatest possible difference to us in the ease and accuracy of many of our observations and consequent inferences about very brief or very rapidly changing events.

Can we then succeed in attaining any such power of magnifying? Before attempting to answer this question we must first see which of our various senses are most in employment in estimating time-successions, so that we may know which they are that need such assistance. In the case of space we saw that of the two senses principally concerned in yielding information one only had shown itself amenable to this magnifying process, namely the sense of sight. In the case of time the senses upon which we have most occasion to rely are, it seems, those of sight and sound; for touch and the muscular sense do not play any

important part here, at any rate not in the simple examples now before us. Let us begin then with the former of these, and trace out in an example the nature of the analogy before us. Take for comparison some very minute object, say a pollen grain, and some very brief event, say a flash of lightning. What we do with the former is of course to enlarge the angular magnitude which it subtends upon the retina, so that the eye may be able to distinguish the space attributes of its various parts. In simple words we make the object 'look bigger'. What therefore we want to do with the latter is to enlarge the time intervals occupied by the successive portions of the event as they reach the eye. In equally simple words with those above, though, owing to the unfamiliarity of the conception, they do not happen to be words in common use in this exact signification, we want to make the event 'look slower'.

The former of these objects is happily secured by the invention of a system of transparent lenses which spread out the rays of light in space. Can no sort of glasses be contrived which shall spread them out in time, if one may use such a phrase? Unfortunately not, so far as we know; though there is nothing which need deter the scientific imagination from trying to conceive the existence of such a contrivance. It really does not seem as if we had to do more than postulate the existence, in an extremely high degree, of qualities undoubtedly possessed in an extremely low degree by various substances at present. It is a well-known fact that light travels less rapidly through dense glass than through that which is rarer. Take then a sheet of glass of which the density increases uniformly from one end towards the other, and look at the flash as it passes across the pane. Let the increase of density at one end over that at the other be only sufficiently great, the transparency being retained unaltered, and the desired effect will be secured at once; for the whole duration of the flash, and that of each portion of its career, would be proportionately lengthened out. If we could effect in this way a second of delay in the passage of the rays through the thickness of one end of our sheet of glass, over that occupied in their passage through that at the other end, and if the whole duration of the flash was the 10,000th of a second, we should have secured a magnifying power of about 10,000 diameters, so to say. If the momentary event was comparatively stationary in space, like the flash of a gun, say, instead of lightning, then we should have to move our glass before it, instead of leaving it to move before the glass. The introduction of such a delay as might thus be conceivably brought about would be enough to enable us to ascertain tolerably plainly the shape of the spark or flash throughout its career. As we are not describ-

ing such an instrument but merely suggesting that it is not inconceivable, we have no need to suggest also any remedies for various obvious difficulties. All that we need say is that, always granted the first step, they possibly might not prove proportionately more intractable than the difficulties of aberration and spherical distortion which at first seemed absolutely insurmountable difficulties in telescopes and microscopes.

To 'magnify' for the ear we should need a slightly different contrivance (we are still discussing of course the prolongation of the sound, not its intensification in the way of loudness). It may possibly be suggested that magnification of the kind in question is already sometimes secured for us by nature; for is not a thunder-clap really a momentary crash which has been lengthened out into a continuous roar before it reaches our ears at a distance, owing to the multitudinous reflection from many clouds? A little consideration will show however that the analogy here is not a valid one. The thunder-clap is not really changed into a single prolonged one. What takes place is rather this: it is changed into a great number of equal ones rapidly succeeding and indeed overlapping one another. It is as if instead of using a lense in order to get one enlarged image we employed a sort of multiplying mirror which produced a great number of closely adjacent and slightly superimposed images. This of course would give a larger resulting image, but it would be merely a blurred one and not at all the enlarged and clearly defined one which we wanted. A real magnifier would have to produce a single aural image of which the component parts shall merely be enlarged, and proportionately enlarged, but none of them repeated more than once. How should we set about the construction of such an apparatus? Construct, as before, a diaphragm which at one end shall be (acoustically in this case) less transparent than it is towards the other end. We should then need some kind of tube, itself impervious to sound, and the diaphragm would have to be moved rapidly across the end of the tube which was towards the noise in question, whilst the ear was applied to the other end. Each successive minute interval of duration of the sound would then be equally retarded, or 'magnified,' and might thus become perceptible and distinguishable by the ear. The *tone* of course of the noise would be altered, but for this allowance would have to be made after due calculation.[1]

[1] The importance of such an end, unattainable as it may be, is aptly illustrated by the phonograph. That instrument, as is well known, will imitate and reproduce sounds, say those of the human voice. Inasmuch as it does so by the turning of a handle we can of course turn that handle as slowly as we please, and thereby obtain a control of the speed of utterance

The above remarks belong mostly to the region of dreamland, but they none the less concern a subject which all who have occasion to speculate on the nature of Observation and Inference ought to be familiar with. Even in the most mechanical employments, and under the strictest confinement to practical aims, a man will never truly understand how his machine is working within its ordinary range and conditions, unless he also knows what it would do under conditions which he will almost certainly never see realised. Even then our knowledge can never be sound and accurate about what does happen under present conditions unless we make it embrace also a good deal about what merely might happen under conditions which do not exist. When therefore we are professedly dealing with speculation rather than with practice, the necessity of thus freely extending our limits of thought and hypothesis becomes quite imperative. Our observation and inference are carried on under certain conditions of space and time. Some of these conditions seem absolutely inseparable from the very nature of our faculties, and I will therefore leave to the metaphysician the discussion of what would come to pass were these tampered with. But there are others amongst these conditions (referred to here, for want of better terms, as 'our control of space and time') some of which are within our power to some small extent to modify and amend. With the nature and consequence of these the logician is bound to render himself familiar, both as they are now and as they may be in the future; but he will never succeed in doing this unless he is also familiar with them far beyond this point, *viz.*, as they are conceivable to the imagination but will in all likelihood never be realised at all in practice.

J. Venn.

III.—M. RENOUVIER'S PHILOSOPHY.—LOGIC.

I.

Phenomenism in some shape or other bids fair to be the philosophy of the future. Kant's Critical Philosophy impressed, as is well known, its direction on succeeding thought, and in fact has dominated its development down to the present day. Of the two strains which contended for the mastery in Kant, the

of the machine which inveterate association forbids in the case of our own vocal organs. This, of course, is a perfectly distinct process from that conceived and discussed above. It corresponds (in the case of space) to the physical enlargement of a body already alluded to, as distinguished from its being what we call magnified.

critical seems to have preserved the greatest vigour, the other or absolutist strain having worked itself out in both its branches. The absolute *thought* theory, though still sitting in isolated grandeur on sundry professorial chairs, shows no sign of recovering its ancient supremacy; and the absolute *will* theory, though popular perhaps in the land of its nativity, has abandoned the proper objects of philosophy, the facts of conscious perception and action, to become a philosophy of unconsciousness and the means of attaining it.

It was not till the second half of the present century that M. Renouvier, in his *Essais de Critique Générale*, did for the critical strain in Kant what the German ontologists had done for the absolutist strain, that is to say, produced a complete system of philosophy on its principles, a system based at once on the disproof of noumenal entities, of which substance and substantial cause are the chief, and on the reflective analysis of the phenomena of consciousness as such. M. Renouvier has been the first to produce a complete system of philosophical phenomenism, based on the critical principles of Kant; and it is with his name that the phenomenism of the future will be justly associated.[1] Nevertheless a prior name ought not to be omitted when we speak of a critical philosophy, the name of a younger contemporary of Kant himself, that of Salomon Maimon. He too was phenomenist and criticist, but he did not live to bring his philosophical system to completion. M. Renouvier's originality, too, is in every way beyond question. He can in no sense be called the successor of Maimon. Their ways diverge widely, though it is from a point *within* phenomenism. Both go together up to the point of complete correlation between consciousness and its objects, which is the note of phenomenism; but when they come to the analysis of phenomena within consciousness, then immediately their differences begin, differences which are of a fundamental kind. They diverge as early and they diverge as widely as, in the opposite school of absolutism, Hegel's theory of absolute *thought* diverges from Schopenhauer's of absolute *will*. Equally *irreconcilable*, however, they probably are *not;* though time alone can show. For their differences lie in the analysis of phenomena which are open to the observation of all, and confessedly to be examined in their

[1] Had I been acquainted with M. Renouvier's works when I published the *Philosophy of Reflection* (as I must now confess with shame I was not), I should not have laid claim, in the unqualified way I did, to have been the first to dispense, in a system of philosophy, with the notion of *substance* (Vol. II., p. 189), though basing that claim on my views with regard to time and space. It is equally dispensed with in M. Renouvier's system, though its place is not supplied in the same way; and this retractation, unimportant as it may be, is therefore his due.

character of phenomena, and with the aids derived from physiological psychology. The common acceptance of phenomenist principles is a deeper bond of union than any divergence on points of analysis within phenomena, however fundamental, can disturb. There are facts to appeal to, and what is more, an admitted method of interrogating them. Absolutism, on the other hand, supplies no bond of union at all; it is a name and nothing more. Each absolute system excludes every other absolutely and from the first.

The importance of this fact can hardly be overrated. Phenomenists can hail one another as allies, as co-operators in a common work, notwithstanding the widest divergences of opinion and method within that work. All such divergences, and the discussion to which they give rise, are but the necessary means of reaching a common truth, which when reached is welcome to all, being of the kind which all are alike seeking. In this respect the phenomenist philosophy is the parallel of science, where all truths are welcome, by whomsoever they are won, and whatsoever prior hypothesis they favour or disprove.

A cordial and friendly welcome, then, and at the same time an attentive examination, should be the reception given by phenomenists in this country to the works of the veteran philosopher who has been the first to propound a system of philosophical phenomenism, and who by loftiness of aim and dignity of thought, combined with acuteness and learning, has the most powerfully contributed to command its success.

II.

M. Renouvier's system is contained, up to the present time, in four works, to which he gives the title of *Essais de Critique Générale*, the several names of which sufficiently indicate their subject and scope. The first is the *Traité de Logique Générale et de Logique Formelle*, published in 1854; the second the *Traité de Psychologie Rationnelle*, published in 1859; both which appeared again in revised and enlarged editions, each work being in 3 vols. 12mo, in 1875, to which editions the references in the present article are made. The third is *Les Principes de la Nature*, 8vo, 1864. The fourth is the *Introduction à la Philosophie Analytique de l'Histoire*, of which the first volume, the only one hitherto published, appeared, 8vo, in 1864. The ten years, therefore, from 1854 to 1864, saw the foundation of M. Renouvier's whole system.

But these works have since been followed up by others of no less, indeed in one case as I venture to think, of even greater importance and value, barring always the transcending value of

establishing phenomenism at all. I allude to the next work which M. Renouvier published, his *Science de la Morale,* 2 vols., 8vo, in 1869. Next to this came his *Uchronie,* in 1876, the scope of which will be sufficiently set forth, for the present, by its alternative title "*An historical and apocryphal sketch of the development of European Civilisation, not as it was, but as it might have been*". Besides which, he is continually contributing articles on philosophical, social and political questions, to the Journal of which he is chief editor, *La Critique Philosophique.*

Such is the general map of the Renouvier territory. Before proceeding to explore it, I will venture the remark that, in my opinion, the crowning peak of the whole land, the glorious sunlit summit to which its roads have led him, and from which we obtain no uncertain glimpses of the promised future of humanity, is the *Science de la Morale.* That work gives promise of a better future for mankind, not only because it contains the analysis and establishment of the principles which ought to guide human effort, but also because it exhibits them in a form in which they may be pressed on the attention of practical statesmen. As I propose to examine only those two of M. Renouvier's works which are the foundation of the rest, I confine myself to hailing his *Science de la Morale* as deserving, not merely comparatively with other books, but also in a more absolute and positive sense, the distinctive title (a title devised by Coleridge) of *The Statesman's Manual.*

But it is time to begin with the system itself. It is contained in the four Essays mentioned above, and the *Science de la Morale* is its corollary (barring one important derogation to be mentioned in its place). The two first Essays, the *Logique* and the *Psychologie* contain the establishment of the principles, which the third, the *Nature,* applies to the world of physics and biology, and the fourth, the *Philosophie de l'Histoire,* to the early periods of human society. The two first Essays are therefore theoretically the basis of the whole, and, as we shall see, the *Logique* is the basis of the *Psychologie.* These two contain an analysis of consciousness from two different points of view; the *Logique* regarding its phenomena as a subject-matter to be described and its relations determined, the *Psychologie* regarding the same phenomena as functions or modes of activity of consciousness, as in a given individual, the main classes of which are given in the first instance by the main divisions of the *Logique.* Thus both essays go over the same ground, testing and controlling each other; the mental furniture which the *Logique* analyses as the content, and the *Psychologie* as the functions, of the mind, being also the obverse aspect, the *subjective* aspect as it is commonly called, of the *objective* universe of

existence; though it must be noted that M. Renouvier gives to the terms *objective* and *subjective* significations just the reverse of the usual ones. But this is a question of nomenclature which need not now be discussed.

We may pass lightly over the first two Parts of the *Logique*. They are devoted principally to the establishment of Phenomenism, the exclusion of the Absolute and of noumenal entities, in short, of what M. Renouvier well calls "fetishism in philosophy". The first Part is entitled "Of Representation in general". The most general term, which includes all other phenomena of consciousness within it, is according to M. Renouvier *représentation*. Each representation has a double aspect, on one side it is a *phenomène représentatif*, on the other a *phenomène représenté*, or, in less technical language, a perception and a thing perceived; a distinction, it must be observed, which is a very different thing from that between a state of consciousness and a state of nerve on which it depends.

Farther, just as the noumenal substrates, or things-in-themselves as they are called, are excluded from philosophy, so also the Ego, the *Moi*, or Self, is excluded *as a datum* from the representations considered merely as such in this first Part. It will come in, when we come to the *analysis* of representation in the third Part. Representations alone and in general, not any one or more particular representations, are in this first Part shown to be the proper and total object of the whole inquiry. And every representation must be taken as involving no more than its own elements, the elements composing it as a representation.

The question of method comes next. The great principle by which the nonentity of noumenal substrata is proved, when the case is one where actual phenomena are treated as if they were such substrata, is what M. Renouvier calls the "principle of number," or "principle of the finite". Actual representations, he says, treated as things-in-themselves, must either form a whole or not form a whole. If they do not form a whole, they are things which we cannot consider, under the simple relation of existence, conjointly with other things which exist. But this is incompatible with representing them at all. Therefore they must form a whole. And, if they form a whole, then, with any given whole, a *number* is always given. Everything that can enter into representation *at all*, even to be discussed, must form *a whole* with other things in representation. This, if I rightly apprehend the argument (Vol. I., p. 46), is what is intended by the "principle of number". It seems to require some further support than can be obtained from the consideration of representation in general. The notion of a *whole* must have its

foundation, and consequently the principle of number its proof, in the *analysis* of representation, which is for the present deferred. For my part, at least, I should hesitate to admit, without further proof, what this argument seems to require, that to represent a thing conjointly with others is the same thing as representing them all together as a *whole*. The term *whole* is ambiguous.

This principle M. Renouvier then applies (I. pp. 50, ff.) first to the representations of space, time, matter, and motion; and shows that to take them as things-in-themselves is to take them in a way which contravenes the principle of number, is to take them as realised infinites, either of extension or division, and *vice versa*. Taking the parts of space, of time, of matter, and of motion, as things-in-themselves involves taking them as realised infinites, either in extension *ad extra* or in division *ad intra*, and that is contradictory to the principle of number. The parts of space, time, matter, motion, if taken as infinite, form a number which is *not* a number; and to imagine that such things *exist* is to imagine an object to exist which contradicts the laws of representation, that is, to imagine a thing-in-itself. A discussion of Zeno's paradoxes is appended. Other groups of phenomena are then taken, ending with the largest of all, the Sum of Things, and proof is given that, existence involving relation, a thing imagined to exist out of relation, or in other words *in itself*, is a nonentity.

It will not, I hope, too much interrupt the current of narration to remark, that the proof last mentioned seems to stand on very different ground from that on which the preceding identification of a thing-in-itself with an infinite is based. It is a perfectly general consideration that existence involves relation; but that a thing-in-itself is the same as an infinite thing requires a special analysis of the meaning of *infinite*. And even if an infinite thing were shown by analysis to be a contradiction, still it is not every self-contradictory fiction that is a thing-in-itself, which is a fiction of a particular kind. This last remark applies to M. Renouvier's conception of things-in-themselves generally. He seems to understand the term in an extended and not in the strict sense which Kant gave it, in the section of the *Kritik d. r. V.* on the ground of distinction between phenomena and noumena. (See I. 43 and 91-92.)

The second Part is devoted to an "Elementary Review of Phenomena". It is really a sequel to the first Part, containing more introductory matter, explanatory of the Phenomenist position. Various terms are defined and explained; Reality, which it is shown cannot be opposed to Phenomenon; Truth; Principle of Relativity; Law of Phenomena; Objective and

Subjective Order; Subject and Attribute; Function, a term which is employed in a sense derived from the signification it bears in mathematic, and means, in such phrases as physiological, intellectual, functions, functions of sensation, memory, and so on, a "regular determination of certain phenomena consequent on the determination of certain other phenomena, conformably to a law which is proper to each order and known by experience". Space and time are said to be "general functions of all phenomena so far as subject to the laws of quantity". Consciousness may be called "a function of functions of objective phenomena," *objective* meaning, in M. Renouvier's sense, as *representations;* and nature "a function of functions of phenomena".

The term *être* calls for a special definition. Noumenal substance being banished, what do we mean by *l'être?* What is a *Being?* It is clear that a being, an existent, implies relation and law. And the word is applied properly to all phenomena, to relations as well as to the terms connected by them, to the law as well as to the subject of it. There seems to be a certain double sense in the word, an absolute and a relative sense; "in fact, the absolute is in some sort given in the phenomenon, namely, so far as it is simply *there*, present, or posited; but, so soon as posited, the phenomenon appears in a relation which may well be not *this or that*, but is necessarily *some* relation *or other*. Thus the phenomenon is, and the absolute disappears; or the absolute is and remains, and the phenomenon is no more, and there is nothing". . . . "The proposition *the existent is*, which does not go beyond its own subject, empty as a judgment, is equivalent to the exclamation: *être! représentation! phenomène!* It expresses the great mystery which no representation has ever penetrated or ever will penetrate; but would this mystery—if the existent were not a determinate existent, if relations were not—present itself at all?" (I. 140.) Some remarks on existents belonging to the material, vital, and representative or conscious orders, followed by a brief section on science and the sciences, complete the second Part. So much will perhaps suffice to convey an outline of M. Renouvier's position as a Phenomenist, or in other words, with regard to the general question of the nature of existence.

The third Part, which contains the "Analysis of Fundamental Laws," is naturally that to which the greatest interest attaches, at least for phenomenists, inasmuch as this analysis it is which ascertains the distinctive character of the phenomenism expounded in the two foregoing Parts. All representations (we have seen) are in relation to others, order is traceable in all from the very first; they come to consciousness in relation with each other, and thereby also in relation to consciousness as a whole,

and to its centre the conscious person. What are the chief or ruling relations to which they are subject? That is the great question.

These relations M. Renouvier finds to be certain Categories to the number of eight, or nine if we count *relation* itself, each consisting of three members, a thesis, an antithesis, and a synthesis; and these Categories, involved in the *représentations représentatives*, rule our thoughts, so that we find them again in the world of existences, the *représentations représentées*, as the laws of that world. The following is the table of them:

Catégories.	Thèse.	Antithèse.	Synthèse.
relation.	distinction.	identification.	détermination.
Nombre	Unité	Pluralité	Totalité
Position	Point *(limite)*	Espace *(intervalle)*	Étendue
Succession	Instant *(limite)*	Temps *(intervalle)*	Durée
Qualité	Différence	Genre	Espèce
Devenir	Rapport	Non-rapport	Changement
Causalité	Acte	Puissance	Force
Finalité	État	Tendance	Passion
Personnalité	Soi	Non-soi	Conscience

This conception of the Categories differs from Kant's in not requiring any noumenal agent, of whose transcendental actions the categories may be conceived as expressions; for they exist in right of experience, as members of the analysis of actual phenomena. And it differs from Hegel's conception of the laws of thought, inasmuch as the categories are not produced out of each other by a process of negativity, nor any one of them out of nothing by the same process. Time and Space too, it will be observed, which are Kant's forms of perception or intuition as opposed to thought, are here made moments of the two categories, position and succession. The effect of this is, first, to obliterate the distinction between perception and thought, at least as a cardinal distinction of the analysis, by sinking them in one single class of phenomena, *représentation;* and secondly, to subordinate the forms of perception to those of thought (and not *vice versa*), by making the forms of that single class of phenomena, in which the distinction is obliterated, the ultimate laws of consciousness, in which the forms of perception as such are comparatively insignificant moments. The results of this will appear as we proceed.

The Categories of representation being established, the remainder of the *Logique* consists in their development and application. From the first or general category, that of Relation itself, with its three moments, springs the distinction between

analytical and synthetical judgments, and the fundamental law of identity or of contradiction, together with that of "excluded middle," here called "*principe de l'alternative,*" which are shown to be one in principle, and to be what M. Renouvier well calls *loi régulatrice des relations constantes.*

The next three categories, Number, Position and Succession, are then exhibited as the source and basis of mathematic in both its branches, calculation and geometry. The discussion of position and succession contains a proof of the irreducible or ultimate character of extension and duration as features of representation. Extension and duration are not deducible one from the other, nor either of them from anything else but from the category of which each is a moment. An excursus on the notion of extension, appended to the chapter on position, and another on the notion of time, appended to that on succession, contain much sound and vigorous criticism on the English Association theorists.

The doctrine next propounded is one to which M. Renouvier attaches great weight, and to which he frequently recurs, the non-existence of infinity in matters pertaining to quantity. "I had no right," he says "to make a category of the infinite applied to quantity, because I demonstrate that this term cannot be used without contradiction, so far as it is taken for a law of representations that are actual. While, so far as it is taken for a law of representations that are possible, the *infinite* is nothing else than the *indefinite*, and the difference between these two words is great. The indefinite belongs to the same category as potency *(puissance)* or possibility." (I. 366.) I shall return to this point before the end of the paper; at present I go on with the *Logique.* My mathematical knowledge unfortunately does not enable me to do justice to the mathematical disquisitions which are a capital feature of the work, with two of which, on the theory of negative values, and the theory of the indefinite and of limits, the first volume closes.

The second volume opens with the foundation of the theory of Formal Logic on the category of Quality, with its three moments of genus, difference, and species. Logical classification accordingly comes from the application of these three moments to the content or matter to be classified, phenomena standing in qualitative relations to each other by virtue of attributes which are predicable of them. The predicable qualities of phenomena add a concrete determination to them, over and above that determination which they get from simply belonging to the first or general category of Relation.

"The category of *quality* answers the question *what (quel)*, declares that *one thing is such and such other thing.* There enters then into every representation of quality an element of distinction and an element of identifica-

tion. But this latter law, which is that of relation in general, receives a wholly new character and development, foreign to the preceding categories, inasmuch as the quality, or thing declared of another thing, is a *genus;* the object qualified a *difference*, and their synthesis, marked by the copula, a *species.*" (II. p. 2.)

By calling the object qualified a *difference* is meant, that, in *the rose is red* for instance, *red* being the genus, the remaining qualities of the rose, other than redness, are its difference from other cases of redness. The law or category of quality, then, presupposes that we see differences and resemblances in the content or matter of representation, and that these are the basis of their classification under the three moments of the category. On this basis a complete and in many respects new theory of formal logic is developed, interspersed as before by several vigorous criticisms of various English writers, among others of Dugald Stewart, Sir W. Hamilton, Whewell, and De Morgan.

The next Category, that of *Devenir*, Becoming as opposed to Being, the German *Werden*, brings us into the atmosphere of concrete phenomena in their concrete shape. The preceding categories have to do with those laws of phenomena which are *constant*, as compared to their content; this one has for its object the concrete content itself. It is a synthesis of sameness with difference, of being with not-being; that is to say, it is Change. And this notion of change is then applied to the foregoing categories.

Going on to the *law* of this concrete change brings us to the next Category, that of *causality*. It differs from *devenir* in the introduction of a new notion, that of *force.*

"Every representation of change is accompanied by a representation of force. From this new point of view, potency in its character of the interval of two joined acts which determine it" [act, potency, and force, are the three moments of the category] "gives us *power*, if the second act is not yet posited, and gives us *doing* or production, if it is posited. These are two aspects of the notion of force. Under the first aspect, the force is only *virtual*, and the potency is as yet distinct from the act; under the other, the synthesis is complete, and it is force properly so called which then appears, having an equal share both of the act and of the potency, which are transformed by being taken up into a third conception. In fact, whether we posit the act pure without potency, or the potency pure without act, we neither obtain change at all *(devenir)*, nor do we obtain doing at all *(le faire)*, and for the same reason. Things are then represented either as actual or as possible, but not as produced. Act and potency, viewed in complete abstraction, are mutually exclusive; force, foreign to each of them separately, is the result of their synthesis. Force is the *act of a potency.*" (II. 278-9.)

Such is in outline M. Renouvier's account of the notion of force and causality in general; there is a special category of consciousness to explain it. But this is not all. There is also

another special source from which our knowledge of force is derived, a particular case of force, which serves us afterwards as a type for imagining other cases of causality. This is voluntary or intentional action; a fact of consciousness, of personality; "the only case in which phenomena are known to us beforehand *(d'avance)* as connected by a force". (II. 286-7.) M. Renouvier's meaning seems to be, that the category is of general applicability, but that one class of cases only, that of voluntary action, gives us the exemplification of this category; though other cases are brought under it afterwards by being compared to that original one.

There follows under this category a treatment of the fundamental principles of dynamics, and also of the logical modal propositions and syllogisms, of the possible, and the probable, ending with a thorough-going discussion of the theory of probabilities.

In the next Category, that of *Finalité* or Final Cause, the subjective character is still more strongly marked. We have seen that human acts afforded *one* case of causality and force; here it is found that *all* final-causation is conscious. For to constitute this, there must be "default, want, need," terms which are applicable only in the case of beings who propose ends to themselves. (II. 459.) We find ourselves accordingly in the subjective domain of the *passions*, using this term in a large sense. The analogy between this category and the preceding one is very close. Still there is a difference which is extremely important.

"Tendency *(la tendance)* is an interval between two states *(états)*, just as potency between two acts. But a potency includes a number, and often an indefinite number, of possibles; it comprehends contraries at the least, contraries which, whether through ignorance or otherwise, are imagined in the unknown future as connected with a determinate past. But a tendency has one direction only, simple and unique. In both cases there occurs a synthesis of an interval with its two limits; we have seen that two definite acts, limiting a potency, constitute a force; similarly, two definite states, limiting a tendency, form a synthesis which we will designate by the name *passion*." (II. 459-60.)

In this way we are brought to the last of the Categories, that of Personality, the fullest and most particular of all, as Relation, the first category, was the most general and abstract. It is supposed in all the rest, inasmuch as for analysis an analyst, for science a savant is required; and all the forms of knowledge are moulded on the laws of the person, who alone has the representations.

"Like all the categories, personality is determined by the synthesis of a limit and interval to correspond. The limit is the self, a sphere and a

series of phenomena posited as being, as act, as state, in the same way as the common thesis of the categories of becoming, causality, and finality, is posited. The interval, abstraction being made of all limitation by the self, is the not-self, the indeterminate, indefinite, complexus of all other or exterior phenomena, but phenomena connected, under all the categories, with those of self, in regard to which they are determined. The synthesis of self and not-self is *consciousness*, the person." (II. 484-5.)

The way is thus prepared for the subject of the next Essay, the *Psychologie*, which treats of the various functions of consciousness, and (as already remarked) reproduces the categories in an active shape or as functions. Consciousness is not itself relation but a relating, "*relation référente*"; and so also, under the next four categories, it is a numeration, an imagination, a memory, a judgment, all which compose the general function of intelligence or understanding, and (supposing the category of *becoming* to be involved, as it inevitably is) of thought. As subject to *becoming*, too, consciousness is also will and passion, which are the active states of causality and final-causation. The three main divisions of psychology are thus given, understanding (including sensibility), will, and passion. Still in some sort even here we are yet in the kingdom of forms; the categories are forms, the "skeleton of representations," and so also are the functions. We suppose the *matter* in and upon which these forms of both kinds are displayed. This *matter*, consisting of phenomena which do not give but range themselves under the categories, and which the categories do not give but arrange—this matter so arranged is *experience;* and inasmuch as consciousness with its forms is the arranger, experience is a name also for consciousness. (II. 488.)

But we have not yet arrived at the end of the *Logique*. There are certain conclusions to be drawn from the analysis, certain results relating to our conceptions of the frame of things, which the *Logique* by itself is sufficient to warrant. Indeed it is here, in the fourth and concluding Part of the work, which deals with the Limits of Knowledge, that the immediate interest of the whole is found. What are these conclusions? The form which the last Part takes is that of discussing the possibility of an universal and scientific synthesis comprehending the phenomena of the universe at large. "Can science solve the general questions which are posed when she applies the categories to experience, or in other words to the World? *Is an unique and total synthesis of phenomena possible?*" (III. 7, 8.)

The answer, as we shall see, comes briefly to this. No such synthesis is possible for scientific knowledge; but there is possible existence beyond that knowledge, which escapes the reach of synthesis, and is the legitimate object of *beliefs*. There is a region which belief may people with probable phenomenal

existences, enveloping a region which can conceivably (though not so at present) be entirely reduced to the synthesis of knowledge. Now there are two ways in which this conception of a region of the world of existence, beyond the reach of scientific synthesis, may be imagined. Either that region is imagined as infinite, and then the world as a whole is imagined as infinite also; or it is imagined as finite, and then we imagine a finite synthesis of knowledge, surrounded by an unknown region indefinite to us, and the whole lying within a finite universe. Which of these two ways is adopted by M. Renouvier?

The way in which he approaches the subject is the following. There is, he says, a discrepancy in our conceptions of the world as a Total, according as we approach it directly by the categories, or from the suggestions of our actual experience. When we take the latter course, and endeavour to follow up experience as far as it will carry us, we find in every direction, a Beyond; phenomena seem to lead us to an infinite under all the categories; we seem to have a limited experience of an unlimited world. On the other hand, when we apply the categories directly to phenomena, the world is conceived in all directions as a finite whole, with *nothing* beyond it either in space, time, or anything else. Is the world, then, finite, or is it infinite? This is a real antinomy, which must be solved, if knowledge is to be a reality, by showing that one branch is true, the other false, and why.

M. Renouvier's solution is, that the result of following experience, the *infinity of the world*, is attained by means of a generalisation or induction which may be illegitimate; while the result of applying the categories directly, the *finiteness* of the world, not only results from a necessity of thought, but is not contradictory, either in itself, or to the inductions of experience so far as they legitimately go. The infinity of the world is contradictory to its finiteness, but its finiteness is not contradictory to the *indefinite* limits of experience, which is all that experience can legitimately assert. "The theatre of experience is the content of the world, and the world exceeds it." (III. 21.) "In one word, experience does not prove that nothing is possible beyond experience, or limiting the sphere of possible experience. On the contrary, the conception of the Whole perishes, and phenomena drift without anchorage, if the infinite, the true name of which is contradiction, obtains a footing in scientific knowledge." (III. 22.)

The antinomy is thus shown to be real, and at the same time receives a solution in the sense of finiteness. An excursus is devoted to applying the same principles to Kant's Antinomies, with the result (1) of rejecting Kant's solution, founded on his

thing-in-itself doctrine, that the dispute is a dispute about nothing at all, and (2) of upholding the *Theses* in all four cases. M. Renouvier thus conceives the world or sum of things as a finite whole, with no time before it or after it, no space outside it; but as containing within itself an unknown region beyond the reach of scientific knowledge, a region which we know to exist, and to exist in relation to the known region, the categories of representation being applicable alike to both. Experience is satisfied by having a *beyond* assured to it; and the categories are satisfied by that *beyond* being conceived as finite. This *beyond* is the region of possibles and of belief, of reality but not of knowledge, except so far as this, that we know it is subject to the categories.

There is, then, beyond the synthesis of experience, an indefinite and comparatively unknown region, which is marked out by the categories, the laws of all representation. This region as a whole is determined by the categories, that is, not by extrinsic but by intrinsic conditions. And no synthesis of *experience* of the world as a whole is possible, because experience implies relation of one fact or phenomena with others beyond it, whereas the world has nothing either beyond it or beside it. (III. 10.) But since we have a general knowledge of the world as a whole, having the categories which determine it, the question occurs whether we have not also, in the categories, data for *deducing* the phenomena within our experience, and so in a general way arriving at a *scientific* synthesis of the phenomena of the world, including the unknown region; a synthesis which would be a deductive and scientific synthesis of general laws, though one with great lacunæ, and not to be called a synthesis of experience. "In order for such a science truly accessible to exist, we should necessarily have to conceive the unique and total synthesis as attained and possessed, at least in hope, so that analysis should find its mission in developing by deduction from this function of all relations" [*viz.*, the idea of the world as an anticipation of the synthesis] "a result adequate to its content" [*viz.*, the world itself]. (III. 22.) It remains, then, to show that we have not, in the idea of the world given by the categories, such an anticipation of synthesis or "function of all relations" as would furnish data for the required deduction; that is, that we have not, even in hope, the unique and total synthesis in question. And this M. Renouvier proceeds to do, by taking the categories in detail, and comparing them with the results obtained or obtainable by following up the line of experience.

In the three categories of number, position, and succession, the world as a whole is subject to the categories, that is to say,

it consists of a finite number of phenomena, a finite extent in space, and a finite duration in time. But then we do not know what these finites are; they are known to us only as indefinites. On the other hand, the question, *Why* this number, this extent, this duration, and not others, is a question we have no right to ask. Divisibility in phenomena is also shown similarly to be finite and not *in infinitum;* the problem of several similar worlds is discussed; the *vacuum* is maintained in opposition to the *plenum.* In this part of the work, again, powerful criticisms are interposed on Hamilton, Mill, Mr. Spencer, and M. Vacherot. (III. pp. 35 to 114.)

When we come to the category of quality, the result is somewhat different. The world clearly falls under the categories of number, position, and succession, that is, it is a finite number, extent, and duration, of phenomena. But it does not fall in the same sense under the category of quality. It is not a *species* at all. We must indeed say that it is a genus with regard to its internal species, or that it is a species of species, all differences included; but this is not to determine the world as a species; it is merely to define it in the technical terms of the category. Its determination analytically or *a posteriori* is impossible, because here we are debarred from using the moment of *difference,* all differences being already *included* in the Whole. It is therefore no datum for a synthesis. Again, to determine the world as consisting ultimately of one or of several species would be to refer it to so many *substances* out of which, or *causes* by means of which, it has become what we see it. We should in this way pass out of the category of genus and species. (III. 116.) An excursus is devoted to the subject of transformations of force, and a chapter is given (after examining the next category, that of *becoming)* to show that the evolution theory cannot carry its subsumption of species under the head of development to the point of abolishing species altogether, without at the same time abolishing all knowledge whatever. In other words, the category of quality, with its moments of genus, difference, and species, is a necessity of thought. At the same time it gives us no hint what, or how many, are the separate existences with which the world begins.

The case with the category of Becoming is the same as with those of number, position, and succession. The general conclusion applicable to all alike, as well as to that of quality, is, that representation by the categories is the *rule* of experience, and consequently extends by anticipation to the totality of its phenomena. But the extreme limit, which we are thus compelled to posit, is not a thing which can itself be limited. It cannot therefore be defined; and is no datum for the total

synthesis. In other words, the categories are the alpha and omega of knowledge and of existence; they present us with a finite world, the limits of which are fixed, but cannot without contradiction be defined, by representation. (III. 152.)

The three last categories hang closely together; questions raised under the first are referred to the second, and thence to the third, for an answer, and only under the third is a perfect synthesis shown to be impossible. To begin with the first of the three. The notion of an uncaused cause or causes is forced upon us by the category of number applied to that of becoming; we are compelled to assume one or more causal phenomena, or rather *forces* (since potency and act are never isolated, but always combined into *force* as already shown). These are posited as existing without antecedents, and as the conditions of existence of subsequent given relations. (III. 181, 187.)

Nor is this spontaneous existence to be confined to the beginning of the world. "We are ignorant," says M. Renouvier, calmly, and without betraying any sense of the insecurity which such a fact would introduce into all sequences, "whether phenomena entirely new and independent (without any bond with those which now are or have been), can or can not supervene". (III. 181.) In discussing the question whether there is a law of universal pre-determination of phenomena, or whether there is a *real* contingency in nature (which great question is passed on to the succeeding categories), M. Renouvier says, that, if all or any future events are in fact uncertain, ambiguous, unforeseeable by any consciousness whatever, then the determination of one possible event, to the exclusion of others, is a title of real individuality for the forces by which the determination is effected; they are *free forces*, and to the extent to which they determine possibles are veritable first forces. (III. 194). Reserving however for the moment this question, he concludes, after an elaborate discussion (III. 191-192), that the probabilities are in favour of more first causes than one, but in interdependence on each other. Clearly, however, no complete synthesis of the world is hereby placed within our reach.

The category of final cause leads us to attempt the synthesis of the world by positing an ultimate final cause or causes of all phenomena, which would be a closing limit, as a first cause is a commencing limit, of phenomena as a whole. The necessity, however, of an ultimate end, in time, of phenomena is not so certainly established as that of a first beginning is; for it is not, like that, established directly by the principle of contradiction. The events to which it relates are *ex hypothesi* future; and the contradiction which lies in an *actually* realised *infinity* is there-

fore avoided by the notion of an endless succession into the future. But it is none the less *incomprehensible* on that account. (III. 198, 199.) We are therefore led to assume the more comprehensible view of a final limit to the world in time. (*Ib.* 198-201.)

Here we are again brought to the question of indeterminism or real contingency. Seeing that the first cause must be regarded, when we bring in the notion of *passion*, that is, of conscious desire, as existing in virtue of an *end*, the question arises, whether the whole order of events originated by the first cause, in view of the ultimate end, is predetermined by its cause and its end together; or may the end be missed? How is the cause determined by the end, and are the ends one or several, acting together or acting apart? (*Ib.* 201-204.) It is clear that we can get no total synthesis from this category, but must have recourse to that of Consciousness.

But even under the category of consciousness, our hopes, if we ever had any, are doomed to disappointment. M. Renouvier shows by a series of subtil reasonings, which cannot be condensed or summarised without grievous loss of their weight and vigour, and which take us deep into the questions which cluster round the conceptions of cause, creation, *causa sui et mundi*, fate and free-will, foreknowledge absolute, and others of similar profundity, that neither the hypothesis of one, nor that of several, conscious beings can enable us to attain the desired synthesis of the world of phenomena. He himself prefers the hypothesis of several, for "we cannot hold our footing in that of unity, and so soon as we succeed in rendering it intelligible, we find that we have passed over into the other hypothesis".

Though we must admit that a synthesis exists, it is a synthesis inaccessible to us. Still M. Renouvier goes so far as to say that

"Leaving in its inaccessible obscurity the question of pure origins, we affirm that the first datum for science is a plurality of consciousnesses; and this might, in strictness, pass for a solution of the problem which philosophy pursues. We reject the pretensions of metaphysic. We affirm a first commencement of all things; but then that is to posit a limit, not to open the field to absolute knowledge. We declare for the impossibility of conceiving, either in their unity or in their plurality, the primitive terms which are imposed by logic on the development of the facts of existence. It is thus and in this sense only, that the law of the multiplicity of consciousnesses can offer itself as a solution—a solution which has nothing in common with that universal synthesis, the conditions of which we set out to seek." (III. 241.)

The whole chapter concludes thus:—

"We come to this as our definitive conclusion: The total synthesis of phenomena, so far as it is a first datum, is withdrawn from knowledge and from science. It existed nevertheless, it existed determinately under all

the relations, in its own nature, conformably to the category of number, without which neither speculation nor thought is possible.

"The actual synthesis, which embraces past phenomena in its sphere, is determined for the same reason; it is a datum, but it is not a datum for science, nor can it be so. It admits of a plurality of consciousnesses, and that is all we know of it.

"The synthesis bearing on the future could only be a datum so far as phenomena, of whatever kind, should be in strict dependence on antecedent phenomena, which is their pre-determination. But we know not whether the world is subject to such a law, and if it is not, we must then say that the total synthesis, in respect to the future, is, and has been at every epoch, an idea without foundation for every possible consciousness." (*Ib.* p. 245.)

Courage, reader! There remain but two and twenty pages duodecimo to compass, and those few pages contain the harvest of all that has gone before, and will give us a broad outlook over the whole field of philosophy and its divisions, as conceived by our author. M. Renouvier has fully attained his purpose in the whole preceding discussion on a total scientific synthesis, though I am painfully aware of the inadequacy of my brief rendering to represent its power and completeness. But why is M. Renouvier anxious to show that no scientific synthesis is possible? It is to break with *absolutism* in philosophy once and for ever; to show how and why it is that he has no part nor lot with *a priori* constructions of the universe, overriding experiment and induction, whether of an idealistic or materialistic type; in short, to prove himself a genuine phenomenist. The need for this, I will add, was the greater because he adopts the theory of categories, or laws of thought as opposed to perception, which had already led, in Germany, to an idealistic absolutism. That, I take it, is the main purpose of the long disproof of a total scientific synthesis.

But this being done, there remain the questions relating to the indefinite unknown region beyond experience, but within the categories. These questions have now to be treated. We do not get rid of this region of the world, or of the questions relating to it, by showing that the scientific synthesis of the world as a whole is impossible. Indeed these questions are the specially philosophical ones in a phenomenist system. The purpose of philosophy, says M. Renouvier, has always been defined, by its necessary practice, as an inquiry concerning God, man, liberty, immortality, and the first laws of the several sciences, all questions which hang closely together, and which, even if no science of them were possible, would still offer a field to *criticism*, in order to prove that it was not. For this reason he has excluded the word *philosophy* from the title of these Essays.

The sciences differ from philosophy (still it is M. Renouvier who speaks) in that each of them places its own principle or first law *beyond* the field of its own researches; whereas philosophy has principles, and its own among the rest, as its proper object of research. There is thus a *circle* in philosophy, seeing that it must employ the very principles which it seeks to establish in the act of establishing them. It replaces the vague and confused syntheses, which serve as its data, by definite syntheses which are its results. If it can, so to speak, make both ends meet, by showing that its definite results are the harmony of its vague data, then it is entitled to *postulate* the assent of mankind.

Uncertainty to some extent there must always be in human speculation, but both its kind and its degree are to be determined severally for different problems, and in the first place by the division of knowledge to which they belong. The limits of knowledge as a whole are disclosed by finding its general laws, which has been done in the present Essay; and this branch of knowledge, a work of *criticism*, now takes the place of the old and untenable universal science which used to be called philosophy. Under this come the several special sciences, some logical, some of observation or experiment; but all limited by the data which are proper to each, on the one hand, and by the verifiability of their inductions on the other. Criticism again will have its place in the interval between their results and the extreme limits of existence defined by the categories. (III. 246-250.)

Such are the negative results of our analysis; results which are by no means negative in their consequences. The old schools and the old theories vanish—spiritualism, materialism, pantheism, the idols of the infinite, of substance, of substantial causes. "Mind *(esprit)* and matter are but names applied to a classification of phenomena in the rough *(grossière)*. The determination of facts of every order, and of their laws, replaces the search for entities. Existents *(êtres)* are laws." (III. 251.) Things-in-themselves, too, are no more. On the other hand, "it is no longer allowable to affirm deliberately that the individual has no durable existence; that personality is a transient illusion, not a constant law; that man is swallowed up in nature, and humanity with him; or that this present and perishable humanity is the culminating product of the world's development." *(Ib.)*

Thus we find that, according to M. Renouvier's theory the immortality of living beings is no longer an impossibility, though, or rather because, it is no longer made to depend on the notions of *soul* or of *substance*. The unknown region of thought beyond

the actual synthesis of science guarantees at least its possibility. We can now, too, see the true and the false senses in which the term *Atheism* has been and still is so often applied. God, as conceived under the terms of an antiquated theology, can no longer be the object of our belief. That *shell* of the divinity is broken. But the same unknown region of thought, which is the field of legitimate beliefs, recognised as such by science, and which makes a future life possible to thought, is also the ground on which we can securely seek the divine author, or authors, of the world as known to us.

In brief, "an order of possibles, objects of the belief which reason authorises, remains secure, and exists beyond the laws which reason imposes or science determines. We now know what criticism forbids, what pretensions it ruins, what hopes it permits. We have next to ask, whether criticism has not a part to play on the stage thus reserved for speculation; whether, in the intermediate region between the special sciences and the analysis of first principles, there is not a place for a General Science in a new and legitimate form." (III. 258.)

This last question introduces M. Renouvier's special doctrine concerning the articulation, if I may use the word, of philosophy. A new career is to be opened for a general science, without encroaching on the special sciences, and in dependence on the abstract science of the *Logique*. Where and how will this new territory be carved out? We have seen that there is an unknown domain of thought beyond the reach of science; we have now to remark that there is a certain set of problems, belonging to phenomena *on this side* science, which no special science as yet undertakes to treat. These problems are all of a practical character, and relate to matters which, though not lying wholly in an unknown domain, are yet equally matters of probability and of belief rather than of demonstration. We may consider them as marking out a domain in the phenomena of actual life. Join the two domains, and we have the field of M. Renouvier's new general science; lying, as it were, astride of the barrier between science and belief. The problems which he speaks of are these, and they are italicised in his pages:

"What are we to think of the proximate origin and proximate destiny of the special phenomena manifested in a consciousness?" [Immortality]. "More generally, can we admit a certain order of the world as referred to consciousness?" [Moral government of the world]. "Is it allowable to suppose a human individual destiny, a law of development of personality, and under what conditions?" [Nature of the future state]. "Up to what point are the principles of ethic and of the foundation of States involved in the solution of these questions?" [Dependence of moral and political practice on the unknown domain]. (III. 260.)

The foregoing amounts to nothing short of sketching out a scheme, and that on a philosophical basis, in which the questions

that concern man individually and socially are to be treated *in connexion with the invisible world*, instead of being left, as they now are, to be fought for by theologians on the one hand and those who deny, or at least abstract from, the existence of the invisible. In this consists its immense practical importance. We have here a philosophy which has special practical results. Two things are gained by this distribution: (1) morals, including social and political practice, are brought under the *sanctions* of the invisible world; and (2) we judge the nature and character of the invisible world chiefly by our own *moral* nature, and no longer solely by our intellectual faculties and acquirements.

At the same time it must be admitted, I think, that philosophy is brought into possible collision with special science in one part of the field, on which it would not be in collision with it if a stricter limitation of the province of philosophy were adopted. I mean the domains, not of morals, for they are clearly a dependency of the analysis of consciousness, but those of physical science on the one side and of the philosophy of history, including the origins of civilisation, on the other; in short, the two fields covered by M. Renouvier's third and fourth Essays. On his view of the new general science he is bound to have theories in these domains, and thus comes into collision with other theories, for instance, with Mr. Spencer's Evolution theory; which on a stricter view of what pertains to philosophy would be avoided, philosophy being then conceived as indifferent to questions of history, whether physical or human.

Turning to this new general science, the question is, what are the first steps towards taking possession of the new domain. The first necessity, says M. Renouvier, is to study consciousness in action, "man as a function of the categories," man no longer as a content of thought and feeling, but as thinking, feeling, acting; the microcosm not the macrocosm; in short to enter on a Psychology which shall be the complement of the *Logique*. We shall then have before us, as our object of research, an individual human consciousness, but one taken as a representative of all; and this, the first step we take, is the step from the general science of the *Logique*, the method of which is demonstrative and analytic, to the most general branch of the new science, which must proceed by the method of hypothesis and induction. The generalisation of the phenomena of the inquirer's individual consciousness is in fact the first step into the domain of beliefs and probabilities.

And here it must be noted that, if the *Logique* had succeeded in establishing what it is the tendency of philosophy to aim at, a complete total synthesis, no need and at the same time no room would have existed for such a science of probabilities as

we now must descend upon. Every result that followed would then have followed as a deduction from that synthesis. There would have been an absolute system of philosophy embracing and determining the phenomena of all the special sciences. This pretension being abandoned, the only course open is a scientific but not absolute psychology; and the first question to occur in that psychology will relate to the nature and conditions of certitude.

But it will also be remembered that one problem remains over from the *Logique*, which has been passed on from category to category, and has never met with a solution, the problem of determinism: Is there *real* contingency in the world, or is everything that occurs or will occur governed inevitably and universally by antecedent laws, without the possibility of modification? The question of certitude depends on this problem, says M. Renouvier, more than is generally imagined; and a new light will be thrown upon both questions by the new psychology, the *Critique de l'Homme*. In fact we shall find, that the two main problems treated in the *Psychologie Rationnelle* are those of Liberty and Certitude; "for the question is" (and these are the concluding words of the *Logique*) "to know how a man can attain and ascertain truth independently and beyond the limits of his own actual and individual consciousness."

III.

Such are the outlines of a philosophy, or rather of the basal work of a philosophy containing an outline of the rest, which will, if I mistake not, and so far as it founds a system of Phenomenism, impose its law and its direction on the next epoch of philosophic thought. I say only so far as it founds a system of phenomenism, for the work which we have just gone through falls into two very distinct portions, the phenomenism of the first two Parts having no necessary connexion with the analysis of the phenomena of consciousness by Categories, which occupies the third Part, and is applied to the interpretation of phenomena generally in the fourth. The phenomenism may stand, and the analysis fall.

The analysis seems to me open to serious objections, objections which looked at solely from an analyst's point of view appear enormous, fatal to the system, but which yet, from a practical point of view, sink into utter insignificance. I mean that they are insignificant when we consider how independent of that analysis phenomenism really is; how independent of it also that doctrine of phenomenism is which maintains the existence of an Invisible World in relation with our own; and, moreover, when we take

into account the possibility of replacing it by one more searching, not only without weakening but with positive addition of strength to the general phenomenist theory. The question of analysis by categories is a question *within* phenomenism, and may be answered in different ways without destroying the union of phenomenists in developing that general theory.

From this point of view I will venture with diffidence to state my objections to that analysis, not purposing to examine it at length, still less pretending to refute it. I wish rather to call attention to this great work of M. Renouvier's, to claim for it due recognition and careful examination by others, being convinced that in this way alone the interests of truth can be served. Besides it is necessary for phenomenism that its analytical portion should be placed on a perfectly secure footing, beyond the reach of scepticism and of atomism. For by phenomenism I mean, of course, philosophical phenomenism, not that rope of sand, that psychology in masquerade, and negation of philosophy, which regards consciousness as consisting of isolated atoms of thought, Humian impressions and ideas, bound together by the Laws of Association. If this is phenomenism, it is certainly not philosophy; and even phenomenism it appears to be only because it makes *no use* of the notions of noumenal substance and efficiency, not because it disproves their existence.

What then are the objections? In the first place, what M. Renouvier calls an analysis into categories is not analysis, but an arrangement of the facts under heads which are, it is true, well known notions in actual use, but none of which are ultimate elements of thought. It is an arrangement of a double kind, first of phenomena under the nine categories, secondly of three mutually relative conceptions under each category; and this certainly simplifies the phenomena by classifying them in an easy and convenient order. But the categories themselves are as much in need of analysis, as the phenomena are when not so arranged. There is not one of the categories, or of the conceptions composing it, which is not resolvable into simpler elements; these elements being some mode or other of feeling or sensibility, some duration of time, and, in the case of feelings of sight, touch, and sense of resistance (whether separately or combined), some extension in space, together with that particular feeling, or sense, of effort in attention, which is the mark of what we call volition. The formal elements in the categories, abstracting from their content of feeling other than the feeling of effort—and it is as purely formal that M. Renouvier regards them, calling them for instance the "skeleton of representations"—are thus reduced to three kinds, that of space, that of time, that of volition. And of these the modes of time and the

modes of space are formal elements in states of consciousness *before* volition modifies them; are elements of perceptions, before these perceptions are modified by volition into *thoughts.*

If this conception could be carried out, we should have a real and, so far as it went, explanatory analysis of consciousness; real, because into constituent parts more elementary than the things analysed, and explanatory because an approach to determining the primary springs of consciousness, at the point where it issues from its conditions of existence, the properties and powers of nerve-substance, before its development into distinct functions and faculties. But no such approach is made by M. Renouvier's analysis.

Take for instance the category of Causality, which is the name for the three conceptions, act, potency, force, taken together. This is an arrangement, not an analysis into elements more elementary than the thing analysed. To begin with the included conceptions. Force is not analysed by saying that it consists of the combined notions of act and potency, for these require the notion of force for their own intelligibility; each of them includes force, just as much as force includes them; act also is a relative term to potency, and each must be understood *pari passu* with the other. But this is not an analysis of the relation between them; it is a mere statement of it. So neither is the relation between the three terms an analysis of causality, but a statement of the relation to be analysed. Putting forward such statements *as an analysis* of phenomena amounts to admitting that the relations entitled categories cannot be analysed; whereby they come back again into objective nature as *entities,* just as much as if they were called by that name.

Unfortunately M. Renouvier makes no distinction between perception and thought. He calls both, taken together, by the common name of *representation.* And the consequence is, that he does not distinguish the two kinds of formal elements in *thoughts,* but only inquires what are the ultimate modes which are assumed *by combinations* of the three kinds; a category being the combination of some formal element or elements of perception with attention, which is the formal element turning perceptions into thoughts. The categories are thus not an analysis of consciousness in its formal element, but a classification of the combinations of the formal elements in thought, which are in actual use in reasoning. They have consequently no title to be the foundation or criterion of truth in philosophy or criticism.

Consequently, too, they are no sufficient reply to the Associationists. That theory cannot be answered by pointing to the inseparability of relatives in thought, but only to that of the ultimate elements in pre-volitional representation. For it would

still be open to them to urge, that the law of inseparable association had been employed in producing the apparent inseparability of relatives in thought, namely, by supposing them to have been originally isolated in perception; whereas they are precluded from this, if it can be shown that the smallest and simplest *perceptions*, at the moment they cross the "threshold" of consciousness, are states of consciousness containing distinguishable but inseparable elements, some of which (the formal) are carried on into the adjacent perceptions, so as to bind them all into a single chain from the very first. The Association theory requires the assumption, that perceptions are originally isolated; then and then only is there room for the theory. This assumption it is which a philosophical phenomenism is challenged to overthrow.

M. Renouvier seems to have a remarkably firm grip of the truth of phenomenism, but, were it not so, his theory of the categories as an ultimate analysis of consciousness would seriously endanger it. It is in fact the very route out of Kantianism followed first by Fichte and then by Hegel. I do not mean that they framed a theory of Categories, but that they adopted the form of thought instead of the form of perception as their guiding principle. *This* is common to them with M. Renouvier. In speaking of Being, too, he sometimes speaks Kant's and Fichte's language. "Être c'est poser," he says at one place (III. 200); and in the *Psychologie* we find him showing that *being* is *affirmation*, which is thoroughly Fichtean. Taken in a full unlimited sense, uncorrected by the co-existing fact that we cannot posit or affirm, nor yet abstain from positing or affirming, at our pleasure, such phrases as these are sheer idealistic absolutism. It is true that to the perception of existence there goes attention; but that is far from being the whole of the perception. And in fact we abstract from this attention when, after it, we assert that the perceived thing exists. It is what we *cannot help* seeing, touching, hearing, and so on, that we say *exists*. Our affirming it does not make it. Existence is a perception. The affirmation of an existence which is not *forced* on the perception is a *belief*.

There is another doctrine also of prime importance which M. Renouvier shares with the post-Kantian absolutists, one which strikes still harder at the root of phenomenism than the analysis already criticised, and is a consequence of it. He holds that self-consciousness is a necessary element or condition of sensibility; which is a consequence of the category of personality. It comes out first clearly in the *Psychologie* (Vol. I. p. 6), where he says, speaking of this category, "without personal representation, no sensible representation would

subsist". Were it not for his combining, somewhat incongruously as it seems to me, a system of thorough-going phenomenism with this absolutist analysis, he would occupy much the same position as Ferrier of St. Andrews, whose *Institutes of Metaphysic*, published in 1854, the same year as M. Renouvier's *Logique*, gives a complete correlation of objective and subjective aspects, but includes the same absolutist notion, namely, of self-consciousness being a condition of consciousness and not *vice versa*. Ferrier never worked out his *Institutes* into a complete system, so that we cannot tell what the effect of this notion would have been in his case; M. Renouvier has managed to frame a phenomenistic system in spite of it. Still it seems to me, that the stability of the system is seriously endangered thereby. And after all the chief point is, not so much to have a phenomenistic system, as to have a logical and impregnable one.

Changes like those suggested in ultimate analysis, especially if our views on Being and Self-consciousness altered conjointly, would involve further changes of great importance for a phenomenist system. In the first place, what shall we think of Infinity? And here I am in part replying to a criticism which M. Renouvier did me the honour to make in *La Critique Philosophique* for Nov. 30, 1876. M. Renouvier seems to have no other notion of the infinite than as a *realised infinite*, which he rightly says is a contradiction. But there is something between this and the *indefinite*, the validity of which notion he asserts. He seems to think that we can affirm nothing to exist which we cannot in thought see all round, as it were, or which is not conceived as a whole. Consequently his indefinites all lie within the universe conceived as a vast but finite whole. The reason of this is, that his categories are forms of thought, not perception, and all thought is limitation.

But if we take the forms of perception, time and spatial extension, as our ultimates, then we shall find that infinity is involved in all perception. Every perceived thing, which is a portion of time or of space, has time or space beyond it. The perception that this happens always, wherever you have a perception, *this* is the infinity of time and space; it does not involve a process, or going on to see whether, or where, you will be brought to a stop; it is not, as M. Renouvier says, a result of an induction which may turn out invalid; but it is the perception that time and space have and can have no final boundary, that is, one without time or space beyond it. This is a perception which, so far from involving, entirely excludes the thought of a *realised infinite*. Yet it is not an *indefinite*. That *is* the product of the process *in infinitum*; you go on without

knowing whether or when you will come to an end; and this is only possible in concrete cases, not with time and space *in abstracto*. Yet time and space are not thus treated as things-in-themselves; they are merely treated as forms of perception, instead of forms of thought. The term *indefinite* may be defined as that which has *no known* end; the term *infinite* as that which has *no possible* end. Just as the *finite* is that which has and must have an end; the *definite* that which has a known end.

Applying this to the Invisible World, those who take my view of ultimate analysis would adopt the first of the two ways, mentioned above, of imagining the unknown region beyond the synthesis of science, that of imagining it infinite *ad extra*, and not in M. Renouvier's way of conceiving it as vast but finite. This, however, gives rise to no practical difference, since we cannot practically treat the imagined infinite but by employing thought upon it, that is, conceiving limits ever farther and farther off, thus turning it into an indefinite. The ideal existences, which we imagine as belonging to it, must be made indefinites by the mere circumstance that we try to conceive them; of which effort to conceive, the imagination of the infinite is a condition.

But M. Renouvier's finite world, that world which we may picture as a vast but closed and hollow sphere, the surface of which is defined by the categories, threatens to be too small for him at one point. It *bulges* at the Possibles. If he holds, as we know from the *Psychologie* he does hold, the doctrine of a real indeterminism as the basis of a real liberty of will, then the closed circuit of the categories bursts at that point. *Real* contingency is the ἄπειρον, has no bounds, and cannot be imagined to exist in a finite world. Indefiniteness, which is merely the absence of *known* bounds, is no satisfaction to the claims of *real* indetermination. Beyond that indetermination which depends upon our ignorance, there is, it is held, a *real* limit; and yet in the world, so limited, there is *real* indetermination. How can this be made to harmonise?

Not that the imagination of an infinite world shows real indetermination to be true. Far from it. It gives scope for it only, if it should be held true on other grounds; whereas a finite world gives no scope for it at all. The infinite gives scope also for an infinite determination; but it does not decide between the two. It sets indeterminism free, and the gift of infinity is not to be despised.

The analysis of ultimates proposed above, in lieu of the categories, will also be found to have a direct bearing on the questions of certitude and liberty which are treated more fully

in the *Psychologie.* Indeed there is no part of philosophy where important differences do not result, according as we adopt the one or the other view of ultimate analysis. It is not here the place to enter on these questions. One word, however, on another point connected with the unknown region, before bringing this paper to a close, I mean M. Renouvier's rehabilitation of polytheism.

It is in the unknown or intermediate region of thought, limited *ad extra* by the categories, and lying between that external limit and the still more limited interior sphere of scientific synthesis, that the great problems of philosophy are met with, which, according to M. Renouvier, are Kant's well known three—Liberty, Immortality, and God. Regarding the third, the question is—One or several? And here we see at once that the hypothesis of several harmonises perfectly with that of several *causes* of the world, and that several causes are more favourable than one alone to our hopes of completing the scientific synthesis of known phenomena. The vast variety of phenomena and their laws would sooner reach their explanation, if they really reached it by arriving at several causes, than if these had again to be referred to a single cause.

But this consideration is, of course, a mere preliminary. The phenomena of the unknown region are to be judged, not so much by logical needs and intellectual processes, as by the moral nature of man. Final causes, desires, purposes, volitions, which are all phenomena of personal consciousness and subject to the moral law, are the considerations of decisive importance in framing our conceptions of the unknown region, and not scientific conceptions of causality alone. The category of causality is included under and dominated by those of *finality* and *personality;* and these are the categories which give its final complexion to the unknown, as indeed they do also mediately to the known region.

M. Renouvier insists very strongly and very rightly, in my opinion, on the necessity of employing the moral or practical, not only the speculative, reason in ascertaining the nature of the Divinity. In the *Psychologie,* where all these questions are treated at length, he represents God as the God of the moral reason, and rejects every attempt to ascertain his nature by identifying him with the "law of laws or the aggregate of laws which compose the universe". Such a method could lead only to a "certain totality of unknowable functions," a conception belonging either to a materialistic or a pantheistic or a scholastic atheism. But "to attach oneself, by belief, to the existence of an order of Benevolence *(Bonté)* which saves the person and

assures the victory of the Just, this is to affirm God, without knowing anything else about him." (*Psych.* III. 191-193.)

Such being what I must consider the just and profound views of M. Renouvier on the nature of the Divine, and of our means of ascertaining it, what are the considerations which lead him to give the preference to a conception of it as composed of a number of Gods? Again I must have recourse to the *Psychologie*, where all the questions of this series are expressly treated, the foundation only being laid in the *Logique*. I bring forward the question here, because it can only be handled properly in connexion with the Infinite; but in M. Renouvier's treatment it is closely connected with the two others of the same series, liberty and immortality; and his doctrine on these two enters largely as a determinative into that of polytheism.

His train of thought is this. God, we know, is a limited Being; for, in the first place, he must be construed to thought under the categories; secondly, his power and his knowledge are both limited by human *freedom* of thought and action. (*Psych.* III. 251, 252.) This is one set of considerations. But, in the next place, this relative independence of other *persons*, in regard to God, involves of itself their probable immortality. God "will dispose of the causes and ends of our world so far as the liberty and individuality of persons, who are not he, and the general laws which he represents as enveloping his own existence, allow it". *(Ib.)* These other persons, in short, treat the Divinity as Hamlet treats the Ghost:

> "And for my soul, what can it do to that,
> Being a thing immortal as itself?"

Now, not to mention the probability of other celestial persons in the unknown region, "our speculations in moral belief, by leading us to the thesis of the immortality of persons, have beforehand and necessarily opened to us the way to polytheism, by means of apotheoses. The progress of life and virtue peoples the universe with divine persons, and we shall be faithful to an ancient and spontaneous religious sentiment if we call those among them Gods, whose nature we think we can honour and whose works we can bless." *(Ib.* 254.) Besides which, a hierarchy of Gods is in greater accordance with republican, monotheism with monarchical, sympathies; though this is not put forth as a reason for belief, but only as a recommendation of it, if it should be accepted on other grounds. *(Ib.* 259 ff.)

These views are farther confirmed, when we come to examine them in the light of history critically treated, as may be seen by turning to the Fourth Essay, pp. 761 to 768. At the same time it is only fair to say, that M. Renouvier must not be regarded as

doing more than saying what can be said for polytheism, and that he expressly guards himself against being supposed to be making a personal confession of faith (*Psych.* III. 268). Still it is clear that his sympathies lie in that direction. As far as sympathy goes, I think, we shall find the determining circumstance to be this,—do we lay most stress on the belief in God, or on the belief in Immortality? "Immortality," says M. Renouvier," is the grand moral faith of this doctrine," namely, of polytheism. (*Ib.* 262.) There is the real watershed between Monotheism and Polytheism, when both are taken alike as consequences of the moral law. But sympathy alone need not, as most certainly it ought not, be made the criterion of questions like these.

Let us go back to the *intellectual* root of the whole question. M. Renouvier requires to have the Divinity construed to the logical intellect before he will consent to believe in it. His intellectual conception and his moral affirmation must strictly coincide. God must be thought under the categories. The categories, as the be all and end all of consciousness, are at the root of the polytheistic conception. For, since they compel us, in any case, to conceive the Divinity as finite, the hypothesis of several finite Divinities, like that of several finite causes, satisfies the imagination at less cost of thought than the hypothesis of one only.

The very same requirement of having the Divinity construed to the logical intellect, before consenting to believe in it, is the ground of the Scholastic unifying conception of God; only that here infinity is thought to be embraced, a *realised infinity*, which, as M. Renouvier says, is a contradiction.

One side denies the infinite, the other defines it. But the infinite can neither be denied nor defined. It is a fact which must nevertheless be reckoned with. It disposes of theorists, not they of it. The infinite, I have already tried to show, is a fact of *perception*, and not a fact of thought. It can only be *partially* conceived, by entering on a *processus in infinitum*, and conceiving one ideal beyond another in succession, the last of which still has infinity, undefined, beyond it, of which it falls infinitely short. There is an indefinite approximation to the infinite, and each stage of this approximation, in matters of religious belief, is an intellectual conception taking in so much and no more of the Infinite Being.

Now what I say is this, that the moral affirmation of the existence of the Divinity attaches to the Infinite, the intellectual conception to the Ideals carved out of it successively in the indefinite approximation. The highest ideal conception which we can form is thus an imperfect image of the infinite, the nature

of which we can know in no other way than by successive more and more perfect ideals, or partial conceptions of it. The existence of the infinite is a fact shown by analysis; no *belief* in the strict sense is possible of this, but only knowledge; but the moral affirmation, that the infinite, in matter of religion, is represented (though imperfectly) by, and exists including, our highest ideal conception,—*this* is an act of religious belief, an act of faith. It affirms the existence of something not only not forced upon it, but of something which, (not being like the infinite alone an abstract element, but a concrete object), yet cannot be logically conceived as or for itself, but only in its representative approximation.

I accept as fully and as frankly as M. Renouvier the necessary anthropomorphism of all religion. "All theism, in the eyes of a man of sincerity, is entirely anthropomorphic." (*Phil. de l'Hist.*, p. 767.) But I hold that the only possible escape from the *narrowness* of anthropomorphism, from the false sense of πάντων μέτρον ἄνθρωπος to the true one, lies in the fact, which analysis reveals, that the infinite both exists and escapes logical definition. This fact it is which keeps the universe from being dwarfed to the measure of human powers, as the categories dwarf it when they are taken as the measure of existence.

But does this alone prove either monotheism or polytheism to be true? Certainly not. But it leaves the field open for monotheism, which the narrower conception of a world limited by the categories would close. It leaves scope for the moral motives, which tend to unification, to operate. And this being so, then, to my mind, one consideration is of decisive weight. It is this. If the Divinity is to be conceived, as M. Renouvier contends in a passage already quoted, as the God of the moral and practical reason, that is, as the God of all men's consciences; and if the conscience of men is formed everywhere on the same model, namely, on the ideal of Justice fulfilled by Benevolence, which is also M. Renouvier's doctrine; it follows that every one, so far as he approximates to his own ideal, approximates to the ideal of all. The ideal is the same, though approached by divers paths, and in different degrees. That which we represent to ourselves as the union of justice and benevolence, the infinite object of that approximative ideal, that and that only is the adequate object of religion.

SHADWORTH H. HODGSON.

IV.—THE *SUMMUM BONUM.*

In connexion with the subject of ends and dispositions toward ends, discussions as to the greatest or highest good have almost always arisen from the very dawn of philosophising. Much fruitless speculation has taken place in the course of these discussions, proceeding from the fact that thinkers have approached the topic imbued with scholastic or *a priori* notions, which have prevented them from dealing with it in a scientific spirit and by a scientific method; but, notwithstanding this barrenness of results of a considerable portion of the inquiries as to the *Summum Bonum*, no less important consequences naturally flow from them than the fixing of the ethical standard, and the determination of what ought to be the chief ends of human endeavour.

The Roman orator, man of letters, and philosopher, to whom the world is indebted for the treatise *De Finibus*, has presented in that essay the true philosophy of this subject in setting forth the doctrines of Epicurus, the greatest ethical teacher of the Greeks; and as remarkably has he exhibited the arguments which from the beginning to the present have been urged against that philosophy, arguments whose insufficiency, as they were stated then and as they are stated now, is no less conspicuous than the assurance with which they are brought forward and reiterated by their advocates as conclusive and irrefragable from their side of the question. Both in the days of Cicero and in modern times, thinkers have misunderstood the Epicurean philosophy, not seeing the strong physiological principles upon which it rests, and have misrepresented it through an obstinate perversion of its meaning and tendencies. The way in which they have misunderstood and perverted it receives nowhere any better illustration than in the treatise I have mentioned. They seem never to have been able to comprehend that pleasure is not confined to things sensual, but belongs as well to the intellectual, the moral, and the spiritual; nor that when men affect to despise and avoid pleasure, it is only a greater pleasure that they are seeking. "The wise man holds to this principle of choice in these matters, that he rejects some pleasures so as by the rejection to obtain others which are greater, and encounters some pains so as by that means to escape others which are more formidable."[1]

[1] *De Finibus*, I. 10. "Itaque earum rerum hic tenetur a sapiente delectus, ut aut rejiciendis voluptatibus majores alias consequatur aut perferendis doloribus asperiores repellat.

The only way in which any satisfactory determination can be reached as to what is the *Summum Bonum*, is by a reference to the ultimate experiences of the human mind. And looking in that direction for a solution of the problem, it seems to be necessary first to know what a *Bonum*, or good thing is, in order to learn what are its superlatives. An appeal to such an arbiter as the one selected reveals two kinds of experiences which are the earliest, the most marked, and the most unanalysable of any which occur in the sentient life of the individual. The one kind of experience is that which we desire to perpetuate and repeat; the other that which we desire to annihilate, prevent, and avoid. One we draw toward; the other we flee from. We call the one experience pleasurable; the other we term painful. A *good thing* is a thing which gives us a pleasing or pleasurable experience; a thing the opposite of good is what gives us correspondingly a painful experience. On the side of volition, whatever is desired, so far forth as the individual desires it, is to him a *good thing;* whatever is avoided, so far forth as the individual repels it, is to that individual a *bad thing.*

If now the will inclines toward those things which are pleasurable and away from those things which are painful, and if both the pleasurable and the painful do as a fact come into everybody's experience, then the maximum of the pleasurable, and the minimum of the painful are the chief objects of desire. This contemplates a maximum of pleasure for a given period over and above what pain is inevitable and cannot be avoided. But such a maximum or excess is no other thing than what we mean by the term *happiness*, and the period considered is the human lifetime, or an extension of it. A *Bonum* is something pleasurable; the *Summum Bonum* is the greatest amount of the pleasurable attainable during the existence of the sentient being.

This view of what constitutes the *Summum Bonum* follows naturally and, as it would seem, necessarily from a philosophy which takes its stand upon experience as its foundation, and appeals solely to experience as the arbiter to determine the validity of its principles. Having accepted the dictum that the facts of experience are at once the data and the criteria of philosophy, and believing that science is only *principia generaliora*, and philosophy nothing more than *generalissima*, the conclusion is inevitable that a pleasurable experience, presentative or representative, is the object of volition, and that the greatest amount of pleasure or happiness is the *Summum Bonum.* In the light of such a philosophy no argument is needed to substantiate this truth. All the lines of association support it, and the mind yields assent to it as soon as stated,

not because it is a self-evident *a priori* idea proved independently of experience, but because a universal agreement of all experience proves and establishes it. It matters little what name is applied to characterise the highest good. Behind the name lies the experience, and that which is desired on the one side is generalised and set over against that which is avoided. The greatest excess of experiences gratifying desire over experiences baffling it is the *Summum Bonum* to be gained, by whatever name you choose to mark the same. The word *happiness* best expresses that excess, and is properly chosen for the purpose. "Therefore," say the Epicureans, "this notion is implanted in our minds naturally and instinctively, as it were; so that we *feel* the one is to be sought for and the other to be avoided." [1]

It is impossible to answer fully the question, What is the *Summum Bonum*? without a reference to psychology, as has been before remarked. The problem must inevitably be worked out through an examination of the human mind, for the existence of a chief good concerns primarily and vitally human action. The good is a good with respect to my pursuit. What I apprehend to be the highest end of endeavour is my *Summum Bonum*. So that, since action follows volition and intelligence directs and guides volition, the laws of will and the laws of intellect, if any such laws there be, ought to and must indicate what are the objects of volition and with it the ends of action. Those laws show a pleasant thing to be an object of desire; a painful thing an object of aversion. By generalisations from these observed facts, it appears readily and plainly enough, in the widest reach of the mind, that the greatest quantity of pleasurable experience is the superlative good. Now in answer to such reasoning it has been claimed, on the one hand, that such a generalisation does not include all there is in the idea of the *Summum Bonum*, but is defective, though the method is a proper one; on the other hand, some are ready to object that the finding and determination of the *Summum Bonum* is not possible by such a process and is not a matter of generalisation at all.

Both of these parties find the highest ethical good in something which they conceive to be over and above happiness, which they variously style *worthiness, blessedness, virtue*, &c. To confound these with happiness, they say, is to ignore important and fundamental differences. Virtue may subsist not only without happiness but in opposition to happiness; a man

[1] *De Finibus* I. 9. "Itaque aiunt hanc quasi naturalem atque insitam in animis nostris inesse notionem, ut alterum esse appetendum, alterum aspernandum sentiamus."

may consciously be worthy to be happy and yet not happy at all, though preferring worthiness to happiness, though choosing virtue above all things.

As to the first of these assumed chief excellences the question at once arises, Worthiness of what? "Worthiness of spiritual approbation," we are then told. Enough for the man, "that he is in the sight of his own spirit and of all spirits, worthy of all spiritual approbation." The very phraseology here used shows that this claimed supreme good is dependent upon some other good more ultimate. Would those who urge this standard deny that the spiritual approbation is a more excellent thing than the worthiness of it? And then too does it not appear that to be worthy of such an approbation is one of the best means of getting it? So it would seem as if the approbation itself is the higher good and that worthiness is advanced as a sort of consolatory substitute, since such approbation is not always gained when deserved. Moreover, this worthiness in the sight of one's own spirit can be nothing other than the spiritual approbation of one's own spirit; and this would seem to include in reality all that is meant by this mooted chief end. To have one's own spiritual approbation means, if it means anything, a consciousness that the person is worthy of the approbation of other spirits. If, therefore, we substitute for "worthiness of spiritual approbation" *consciousness of spiritual excellency*, we shall have all that is embraced in the former. But consciousness of one's own merit or excellency of any kind, as also one's own approbation and the approbation of others, are all alike elements and constituents of happiness; they are not the whole of happiness or the only happiness, but constitute a variety of happiness.

Dr. Mark Hopkins, of Williams College in Massachusetts, observes *à propos* of this alleged *Summum Bonum*:—

> "What is that in which a man's worthiness of spiritual approbation consists? It is in his choice of an ultimate end. The character is according to that. Does then the highest good of man consist in his choosing as an ultimate end his own choice of an ultimate end? This cannot be, and yet it would seem to follow from the definition. . . . . How then can that be the highest good of man, which, if he really had it, he would think of only as the man who has healthy lungs thinks of his breathing. No doubt worthiness is conditional, and in a moral being necessarily so for blessedness. But the word, though it may be used absolutely, naturally carries with it an indication of something beyond itself. A worthiness of what? Of approbation? And why not of the blessedness there is in and through that worthiness and approbation?"—*Lectures on Moral Science*, pp. 57-58.

Now as to Dr. Hopkins's *blessedness* as a *Summum Bonum*, it is quite significant to remark that on turning to Webster's

Dictionary of the English Language the very first definition given of the term is *happiness* and the second is *felicity*. After this general explanation follow two specific kinds of happiness, namely *heavenly joys* and the *favour of God*, while the synonyms of the word are *happiness, beatitude, bliss, joy*. In this case the lexicographer may be relied upon. I am wholly unable to see how any ingenuity can possibly make out *blessedness* to be anything other than a kind of happiness. If I am right, then although blessedness be, if you please, a principal end of volition and a good, yet, since it must be subsumed under a more general good, this latter is the *Summum Bonum*.

In reality both these two designations of the chief good which we have just been considering belong to the same general class as is indicated by those who urge the claims of *virtue* to the position of *Summum Bonum*. Mr. Sidgwick defines virtue to be "a disposition to do or habit of doing such voluntary actions as are deserving of praise or approbation". Worthiness of approbation would thus seem to be its characteristic. In its ultimate analysis virtue reduces itself down to good character with its associations of good reputation. But a good character and a good reputation are themselves pleasures to their possessor; and if these constitute the *Summum Bonum* then the latter is still a pleasure and we are inevitably and unavoidably brought back to happiness. Turn which way we will, we cannot escape from the conclusion that good is pleasure as contradistinguished from pain and that the chief good is the chief pleasure or the maximum of happiness.

If it be conceded that maximum happiness is the *Summum Bonum*, some question would still remain as to whether it is maximum happiness of the individual or of others. There does not seem to be any way of avoiding the conclusion that the ultimate appeal must be to the individual consciousness for a judgment of what is good according as it is good for that individual. My own feelings are the motives of my actions and volitions. There must be a pleasurable feeling to me, in order that I may pursue any course or plan of action. The thought of it must yield satisfaction to me and not to any one else merely. If I make my belly my god or if I seek sincerely the welfare of my neighbour, in either case there must be some stimulus of pleasure to me in the course adopted. If now pleasurable sensation were the only end to be sought, this would yield us an unmitigated egoism as a principle of action. But an economy of pleasure is requisite, else pain comes all the more overwhelmingly; and it is not the pleasure of the moment irrespective of consequences that experience teaches us to pursue, but the greater joy derived from a wise economy of

pleasures—in a word the maximum excess of pleasure over pain, or happiness. And through the social condition and the social necessities of mankind it occurs that I do not obtain happiness except through the happiness of others about me; and, generally speaking, it comes to be observable that the greater the number of other people around me who are happy, the greater and more secure is my own happiness. Thus as mankind come into closer relations and more frequent and easy communication with each other the truth which before seemed limited in its application to the family, the neighbourhood, the party, the state, or the nation, now is seen to have an extension which includes the whole human race. Thus, as constituting a part of each individual's happiness, the happiness of others becomes a *Bonum*, but does not alter the fact that, in the ultimate analysis, the *Summum Bonum* to each individual is his own greatest happiness. In speaking of the chief good, therefore, it is well to discriminate between the chief good of the individual and of the nation or race; the former is the maximum of happiness for that individual; the latter is the maximum of happiness for the greatest number. Since ethics concerns the relations of man to man and implies a social organism, the last-named is the *Summum Bonum* of that science.

The question is sometimes asked why we concern ourselves with the welfare of others at all, especially of others quite remote from us. I conceive that there is no answer to be given to such a query more than to state the fact of the social interdependence of men and the further fact that this interdependence is becoming more and more close and necessary. There is no more reason to be given for it than that life exists or that the solar system stands. Its existence is on precisely a par with those other scientific truths. If then we are asked why we should educate men to find their happiness in the joy of others, to find a pleasure in self-denial and self-sacrifice which overmasters great pain, to esteem it a blessing to die for their country and while they live to live not for their present selves but for the benefit of succeeding generations, we can only justify ourselves by replying that such an education tends to promote the greatest happiness of the greatest number and that it is necessary to the happiness of each one of us that the general happiness be preserved and increased. Thus much for the educators, and it ought to be held a sufficient justification. For the person acting under such an education, it can only be said that to him his maximum of happiness lies in his self-sacrifice. Any inquiry into the final cause of such a disposition or of the general growth and progress of altruism in the human

race must be as irrelevant and fruitless as an inquiry into the final cause of the revolutions of the heavenly bodies.

The interest we take in future ages and future generations is in the same category, though at first sight it might seem to be more inexplicable. What has posterity done for us? was the argument of Sir Boyle Roche. Posterity does nothing for us, but it does a great deal for and most intimately concerns our children and our children's children; and the happiness of our children is directly related to our own; and even if an individual has no children and does not expect to have, his labour for the posterity of some one else brings him the approbation and favour of his associates. But even if it does not bring such a reward, it is likely to do so at some future time, and the hope of enduring fame is one of the chief elements in the present happiness of many people.

All we can do is to watch the development of natural tendencies and see whither they point. *That* they are so and the manner in which they came to be so are within our ken. *Why* they are so and what their ultimate results will be we cannot tell. "Therefore, he affirms," says Cicero of Torquatus, "that there is no need of argument or of discussion as to why pleasure is to be sought for or pain to be avoided. This he thinks a matter of sense, just as much as that fire is hot, snow white, honey sweet; none of which propositions require to be confirmed by laboriously sought reasons; but that it is sufficient merely to state them." [1]

Enough has been said to show, I trust, that the maximum happiness includes all that there is in the idea of a *Summum Bonum*, when we essay to find the latter by observation and generalisation. There is no more far-reaching, no wider generalisation to be made; this embraces all that can possibly enter into the notion of a chief good. To those, however, who claim that observation and generalisation have nothing to do with the determination of a *Summum Bonum*, such a result will not be conclusive. Such thinkers can only be met in the field of psychology and general philosophy. If experience is not the sole teacher, if knowledge is not the outcome of experience, and if science is something more or other than generalisations from experience, then these people may be right; but if the contrary is the truth, with that truth our thesis stands established and cannot be weakened or broken down. Such a comprehensive inquiry as the solution of these problems

[1] *De Finibus*, Bk. I. g. "Itaque negat opus esse ratione, neque disputatione quam ob rem voluptas expetenda, fugiendus dolor sit. Sentiri hoc putat, ut calere ignem, nivem esse albam, dulce mel; quorum nihil oportere exquisitis rationibus confirmari; tantum satis esse admonere."

would require belongs to a treatise and not to an essay. It cannot even be outlined here. We assumed our position on this point at the outset of the discussion. But it may be useful in this connexion to indicate with a little more particularity some of the causes which have led men astray in studying this fundamental question of ethics.

The main difficulty seems to have been that singular obtuseness (before noted) to the fact that pleasure does not mean sensual enjoyment, carrying with it the idea of excess and riot. Epicurus both by his life and teaching sought to disabuse men of these false ideas, but they would not be disabused. The entire second book of the *De Finibus*, which is occupied with a refutation of the Epicurean doctrines, refutes what Epicurus never asserted nor claimed. It proceeds on the supposition that Epicurus meant by pleasure pleasures of sensation and of the body; and that too although the first book of the same treatise expressly shows that under the term pleasure Epicurus included enjoyments of the mind as well as of the body and laid greater stress upon the former. Because Epicurus said that there are no enjoyments which are not *derived* from sensation, the assumed opponent insists that he ignored, denied, and despised everything but presentative sensational pleasures, and actually holds up the words of Epicurus upon his death-bed as proof of the inconsistency of his character with his general doctrine—those words wherein the philosopher says that he is passing a happy day, though suffering pains so intense that nothing can be added to make them greater—having "to balance this a joy in my mind which I derive from the recollection of my philosophical principles and discoveries". To the arguments of Torquatus that Epicurus meant by pleasure something other than sensual delight, Cicero only reiterates that all the world knows what pleasure is and that if Epicurus gives any different meaning to the term, either Epicurus or the rest of the world is in error; and then sagely proceeds to argue as if Epicurus had yielded his own idea of pleasure to the popular notion and adopted the latter into his philosophy—to support which theory there is not the smallest evidence nor for it the slightest warrant of any kind. But having made this assumption, the Stoics could easily enough declaim about the greater excellence of honour and virtue, of the superiority of friendship, modesty, temperance, over pleasure; of the greater excellence of the lives of Regulus, Virginius, Lycurgus, Solon, Miltiades, Themistocles, or Epaminondas over that of the man of Lanuvium, Lucius Thorius Balbus; but they seemed to be utterly oblivious to the fact that to Epicurus honour and virtue, friendship, modesty and temperance, courage and patriotic self-denial,

though to him only greater pleasures, were nevertheless entitled to all the praise the Stoics claimed. Their denunciations and reasonings were destitute of force and application. And to crown all this amazing perversity, Cicero sums up the argument against Epicurus by a reference to the fact that "the whole sum of philosophy is directed to ensure living happily"—the very ground principle of Epicureanism—and then rebukes the Epicureans for placing happiness in pleasure, and endeavours to show that devotion to pleasure cannot bring, ensure or perpetuate happiness!

But though the persistence of this singular and inexcusable heresy even to the present day, spite of all the discussions that have marked and new lights that have illumined the centuries since Cicero wrote, is a matter for wonder, it is not inexplicable. The psychological facts of representation have never until recently been at all clearly understood. It has not been evident or at least not been well formulated that our so-called ideal life is a representation of our sensational. It has not been appreciated that since cognition, feeling, and volition are all but different sides of the same experience, our emotional enjoyments are only representations of our sensational pleasures. Therefore it has seemed to many that our ideal joys were something different in kind from our sensations, and while the term pleasure had a relevancy to the sensational enjoyments, the thinking mind, having failed to grasp the true relations of ideas to sensations, could not associate the joy of the higher faculties with animal pleasure, and was unwilling to mark the two by the same designation. Instead of an identification they made an opposition which was part and parcel of an opposition running through their whole philosophy between the sensational and the ideal, the experiential and the intuitional. They ought to have made an opposition between one pleasure or set of pleasures and another; instead of this they wrongly opposed all pleasure to something they insisted was different from pleasure, and which they called *joy, blessedness, complacency or virtuous bliss.*

This assumption of a difference in kind between pleasure and blessedness (if you please—I use only one of the designations) has followed the course of the assumed difference in kind between intuitional and experiential knowledge. And as intuitional cognition has been esteemed higher and better, so a joy in things connected with intuition has been regarded as higher, and any kinship with the pleasures of the animal life has been strenuously denied. The intuitional philosophy has on the whole (and especially so far as its applications to ethics are concerned) derived a support from religious dogmatism, because it has been conceived to be an ally of dogmatic creeds. The

church having expressed in those creeds the most enormous assumptions of fact as divine revelations and having denied the right to test their claims by the ordinary gauges of human experience, welcomed a philosophy which would throw discredit upon the methods of experience, and which set up sources of knowledge as above and independent of experience. If the argument from design was not conclusive, a philosophy which gave a faculty of seeing the existence of God by the mind's eye, without proof and without need of proof, was a great gain. And since question and doubt and proof had a disintegrating effect upon religious institutions which rested upon the truth of dogmas handed down from generation to generation, and which were alleged to have been received from the vicegerents of Jehovah, a philosophy which seemed to discourage religious scepticism and to show the untrustworthiness of the logical powers of the human mind and the results of their exercise was too precious a possession to be lightly relinquished. I am not insensible to the fact that at some times the experiential philosophy has been the bulwark of religion and the intuitional the breeder of infidelity, but such has not been the general course; and the tenacity with which men have clung to church institutions and special formulas of belief furnishes, through the associations to which I have adverted, some explanation of the readiness with which they have lent their ears to anything to the damage of the Epicurean doctrines and the resoluteness with which they have closed them to any explanations or elucidations which tended to make it seem more creditable.

Among the religious and theological obstacles which have been in the way of a true appreciation of the greatest happiness philosophy, there appears quite prominently the free-will doctrine. The prevalence of this wide-spread error was owing to its close connexion with theological postulates respecting responsibility for sin, and was able to maintain its hold so long as psychological knowledge remained imperfect. But so soon as a close study of the facts of mental action and growth showed the dependence of volition upon motives, which motives were found wholly within the domain of the feelings, and that the will followed the direction of the strongest motives, people were better able and more ready to see that the free-will principle involved an actual absurdity—no less an absurdity than the denial of the law of universal causation.

Another very potent reason for the distrust with which Epicureanism has been regarded lies in what is called our consciousness that we perform many actions without thinking of our happiness at all or even moved by other and opposed considerations; that we follow after many things for what they are

in themselves and not for the pleasure or happiness they will bring. This difficulty, like the preceding ones, has sprung from an imperfect psychology. It was inevitable in a state of ignorance as to the laws of mental operations; but when we have gained a knowledge of those laws it vanishes without leaving a wrack behind. We have only to learn the laws of association, verifiable from the general experience of mankind, to see precisely how that consciousness comes to exist. Associations of contiguous and similar experiences by repetition grow more and more inseparable until they are so connected that the links by which they were originally joined drop out, and one of the associated ideas recalls the other invariably and immediately. A habit of doing things in a particular manner or of doing particular things when once established, causes us to perform the actions without any thought of their purpose, although the habit itself grew out of some ascertained or expected utility. The action becomes automatic and in itself pleasurable. Having done the act many times, it is habitual, and we love to do it for its own sake. But it is not my purpose now to do more than refer to the psychological facts a knowledge of which removes the difficulty I have just spoken of, without attempting a full exposition of them or a demonstration of the validity of the conclusions drawn from them. It is true that we take pleasure in actions or things for their own sake without consciously having any other end in view; but still it is *pleasure* that is taken; and that pleasure comes by repeated action from presentative pleasures as opposed to pains, and its growth in representativeness is distinctly traceable to utilities either in the happiness of the individual or of others. It only remains to be said that the influence of inherited mental constitutions supplies all that is needed to account for thoughts and chains of thought, feelings, and actions, which the individual's own associations do not seem to be able to explain. The facts of heredity furnish the concluding and consummating links in the chain of demonstration which substantiates the truth of the experience-philosophy.

Let it further be noticed that the cry has been raised against the maximum-happiness-principle that it excludes all disinterested action and is wholly inconsistent with it. And here also a more thorough and correct psychological analysis reveals the baselessness of the objection. From the primary pleasures of society and sexuality forming appetites as basic and original as the appetite for air, drink or food, spring the desires for the amicable presence of other human beings which for their satisfaction demand the happiness of those others as a constituent of one's own happiness. If therefore the appetite of

sexuality is not fully gratified without the pleasure of both parties, and the appetite for the society of others requires for its satisfaction that those others shall be happy in your presence (else they will flee from it and society cease to be), and if by the force of habitual action extending through the life of the individual and making an inseparableness of association and reaching back in the line of its inheritance through countless generations, acquiring new strength and power with each repetition—if there comes a spontaneousness of disinterested action and a joy in its exercise for itself which does not seek for satisfaction beyond; then the existence of altruistic acts and ends is fully accounted for and seen to be a part of the greatest-happiness-philosophy and included within and under its principles. It makes me happy to have others happy; to forget myself is a part of my pleasure and upon that altruistic pleasure of the Ego depends not only the happiness but the existence of the whole human race. Therefore, so far are the maximum-happiness-laws from excluding altruism, that the latter forms one of the most important elements of the greatest happiness both of the individual and the race, and is certainly recognised by those laws as indispensable to such happiness.

Valuable as have been Mr. Henry Sidgwick's contributions to ethics, it seems to me that, in his exposition of its methods, he has failed to make a sufficiently profound analysis of the psychological phenomena of feeling and volition, and thus to comprehend the full force of the philosophy of hedonism and especially what he terms Egoistic Hedonism. In discussing pleasure and desire (*Methods of Ethics*, Bk. I. c. 4) Mr. Sidgwick appears to misapprehend the meaning of the truth enunciated by J. S. Mill, that 'desiring a thing and finding it pleasant are in the strictness of language two modes of naming the same psychological fact'. He goes on to say:—"Now if by 'pleasant' we mean that which influences choice, exercises a certain attractive force on the will, it is not a psychological truth but a tautological assertion to say that we desire what is pleasant. But if we take 'pleasure' to mean 'agreeable sensation,' it then becomes a really debatable question whether our active impulses are always consciously directed towards the attainment of agreeable (or the avoidance of disagreeable) sensations as their end." And the latter is what the author in question understands Mill to mean. With all due respect to Mr. Sidgwick, I am compelled to believe that Mill meant the former; but whether he did or not, the former statement seems to me to express essentially the truth of the matter; and the fact that it is tautological does not militate against its truth or its importance. We have before us a certain mental phe-

nomenon; looked at on one side it is feeling, on the other it is volition. The feeling influences or moves the volition; the volition is moved by the feeling. Now if we are asked to describe the feeling, beyond stating that it is feeling, and its quantity perhaps, we can only characterise it in terms of volition; it is an *agreeable* feeling we say, that is (we explain), it is a feeling which attracts volition or desire. Reciprocally, we must describe a volitional state in terms of feeling; we *desire* a thing, that is, we are moved toward an agreeable feeling. Of course desire and pleasure are not the same thing, for to make up desire there is an element of pain needed. We do not desire what we have; it is the absence of something represented as pleasure which creates the desire. But given an experience not present, to say that it is pleasant means precisely the same thing as to say that it is desired. It would not be correct to say that a thing which is pleasurable is desirable, unless we make a qualification; for the term desirable carries with it an implication more extensive than the other word; meaning oftentimes desirable on the whole as compared with other objects of desire—what ought to be, not what *is*, desired. Whatever is pleasurable is an object of desire would more nearly express the truth.

Perhaps the whole subject can be made more plain by analysis of the ideas marked by the name *pleasure*, a word with which Mr Sidgwick seems also to have difficulty. It cannot properly be said that *pleasure* means *agreeable sensation*, nor is that a fair statement of the best hedonistic views. *Pleasure* is an abstract, whose concrete concept is *agreeable experience*, not sensation. Now an agreeable experience includes not merely sensation but all feeling, emotion as well as sensation; it includes not only the presentative but the representative in all its varieties of integration and complexity. This change from Mr Sidgwick's explanation will be found to make quite a difference with the philosophy of the subject. It should be said, however, that elsewhere in his discussions of egoism Mr. Sidgwick defines pleasure as "feeling that is preferable or desirable" —a definition to which little exception can be taken, but which is much more comprehensive than the one previously given.

And now bearing in mind that *pleasure* is itself but an abstract, which is derived from and for its meaning carries the mind back to the concrete, it should be evident that this name and the notion marked by it arise from the intellectual operations of reflection, which take place for intellectual purposes rather than volitional. For the sake of classification, comparison, condensation and unification of knowledge, this

abstract notion is formed; but the volitional activities do not keep pace with the intellectual; the former rather aim at real concrete things as objects of desire. The mind does not desire pleasures as such, but rather things which are pleasurable. But in another sense volition is inseparably connected with cognition; feeling, volition, and cognition are three different sides of one experience. We mark, identify, and gauge our feelings and volitions by means of our cognitions. In experiencing a pleasure, the pleasure is ascertained and made definite by the cognition. What then do we cognise? We cognise primarily things that are outside of ourselves; and as we represent the experience, we represent the objects of cognition in the position of prominence they originally occupied. So that what we desire is things definitely cognised; and those things are in the first place objects outside of ourselves. And since we do not desire everything that comes into experience but avoid some things, the motive to desire or avoidance is the pleasurable or painful feeling connected with the experience. Those things which have pleasure connected with them in our experience we seek. The *object* of desire is a cognition; the *end* of desire is a pleasurable feeling. In other words, the object of action is intellectual, the end or final motive is feeling. The child desires its mother's breast; the breast is the object of desire, the feeling of hunger is a motive and the represented satisfaction of assuaged hunger is the final motive or end. That which is desired is objective, else it would not be desired at all; the satisfaction of the desire is subjective. It is a law of our nature that action is directed from the centre outward; and volition flows toward a cognised object; but this flow is hastened or checked by subjective pleasure or pain. Moreover since the objects of action are primarily and at all times in large part *non-ego*, external things form a large part of the objects of desire, volition, and action. And when action or volition is directed toward subjective things it is necessary to objectify them. They become in the mind's contemplation *objects* external to the subjective mind. As such they are objects of desire as well as of other operations of volition. Thus when I eat an apple there is a subjective pleasurable feeling. The experience altogether is the apple, the action of the eating and the feelings accompanying. When I recall the experience I think of the apple and the actions I performed in eating it; and as I mentally reproduce them, the accompanying pleasurable feeling is reproduced also in some degree and stimulates me to again realise what I have represented. I then say, I desire an apple. But it is possible for me to form an idea or cognition of this pleasurable feeling and abstract it from the

cognition of the apple, or to direct the attention toward that cognition chiefly instead of toward the apple and the actions of eating. Should I do this the experience is not reproduced as it occurred, but a modification is made; feeling does not start in and begin to fill quite the same channels as before. We have in such a case not the pleasure of eating the apple represented, but the pleasure accompanying a new intellectual object, which is at best only a part of the original object; we have the pleasure which attends the cognition of the pleasure of eating the apple—a dilution of the original pleasure. If we were to make this cognition of the pleasure of eating the apple the object of desire, we should have a vastly weaker pleasure than if we made the apple as represented the object of desire. Practically, therefore, we desire and seek *non-ego* objects for the most part rather than subjective experiences objectified, though pleasurable feeling is still the motive of the desire.

The result of this line of thought is to substantiate Mr. Sidgwick's expressed views that men do not always consciously seek pleasure or the production of agreeable sensations within themselves, but that there is "everywhere in consciousness extra-regarding impulse directed toward something which is not pleasure". Indeed we may even go farther, in maintaining that men scarcely can be said to seek *pleasure* at all. But it also appears there was not in the author's mind clearly the true meaning of the somewhat loose expression that we always desire or seek for pleasure. And while it is patent that we desire objects external which are not pleasures, it is by no means shown that we desire any objects which are not in some degree pleasurable. On the contrary it is made more evident that pleasurable feelings are the motives and ends of actions, although not the direct objects of volitions. Cognitions do not move the will: to do that is the province of feeling; and pleasurable feelings draw action and volition towards those objects which produce them while painful feelings similarly repress and repel. So that the Epicurean philosophy is not disturbed by the considerations Mr. Sidgwick adduces upon this point. It is after all only the old misapprehension of the Stoics repeated, and comes as did theirs from an imperfect psychological analysis.

It remains for us now to note some of the relations of the *Summum Bonum* to ends and dispositions. As a matter of fact we may say in general terms that the majority of men do seek their own happiness as their supreme good; and yet this statement needs to be explained or it will confuse. This is our generalisation of what men do. They do not themselves seek happiness directly and distinctly; they seek more specific and

particular things which are hedonistic or synedonistic. In other words they do not make *happiness* an end, so much as the doing or requiring certain things which have a eudaemonistic tendency. We see, therefore, that the *Summum Bonum* cannot be said to be generally the supreme end of a person's volitions: it may not even be a superior end, nor even an end at all. The desires may not be once directed to it; it may not consciously be in the thought; that it should be there requires no inconsiderable amount of education and involves much reflection and generalisation. It is the more special ends that engross the attention of mankind, though they are all related to and may be connected with the *Summum Bonum*. The latter is the highest generalisation of what may become ends; practically what are ends are more specific. The *Summum Bonum* ascertained furnishes us a gauge by which to estimate the value of these specific ends and to determine whether dispositions toward them should be encouraged or discouraged.

When we come to consider whether the *Summum Bonum* should be inculcated as a principal or supreme end, there are at least two important things to be noted. The first is the difficulty in practically having any end which can be said to be supremely self-sufficient and engrossing; the second is what has been aptly called the Fundamental Paradox of Hedonism. As to the first, the remarks just made in the last paragraph are pertinent. Men as a rule are occupied very much more with the particular than with the general. Though they generalise and form general rules and purposes, and maintain general ends, they are being constantly diverted from these to particular ends, becoming controlled by the latter. Though these particular ends be intermediate to some more general and superior ends, they are more frequently and more continuously in the mind than are others and come to be, therefore, in themselves sufficient ends and no longer intermediate. It requires a vast amount of enthusiasm for ideals to enable a person to sustain as a superior end a very general notion with its accompanying feelings. Much more is this the case with a supreme end. Wealth is often said to be a man's supreme end—all-absorbing and all-engrossing; but it is the pursuit rather than the possession which engrosses his attention, and it is the acquisition of this and that particular thing, as a house, a mine, a manufacturing establishment, or a railroad, which he desires prominently. He has the ideal of wealth in his mind but it is not that which inspires him so much as the nearer and more intermediate ends. This is abundantly proved by the fact that self-sufficient ends are all the time passing into the class of intermediate. Nevertheless it is practicable for a person to

dwell upon a very general notion and create from that a higher end which shapes his efforts; and while he employs means to that end, these intermediate ends do not cause him to lose sight of the higher end, but are kept in perfect subordination to it. But I question very much if many men have ever had any one definite end which for a very considerable portion of life could be considered as a one supreme end before all others engrossing and absorbing their attention and desire, unless it be the acquisition of some particular, special pleasure, like the gaining of a crown or office, or the quest of something lost or the fruition of some scheme of business or adventure. When we look at a man's life after it is concluded and see how by a progress from one point to another he arrives at a remarkable eminence, we are apt rashly to conclude that to attain what he at last reached was the supreme controlling end of his life, whereas it is more frequently the case that his ends varied from time to time and were developed as circumstances arose which made the attainment of a given end seem practicable. It is not to be supposed that Whitington, when at the sound of Bowbells he had his boyish dream of becoming Lord Mayor of London, afterward held in his mind the attainment of that position as a supreme end or even cherished it as an engrossing end, until as he rose step by step that eminence at length appeared to him as within his grasp. Indeed it is the general experience that men of power and ambition who entertain in early years hopes of great place, as manhood comes and they are thrown out into active life and realise its competitions, give up their fond dreams, and form their ends according to their circumstances, modifying them as those circumstances alter, amplifying them or raising them as opportunities enlarge.

If, however, it is possible to form principal ends which will control action, and to make one end more engrossing than another, it is important to know what ends ought to be made of the greater consequence and whether any one end should be held as worthy to be supreme. And if to the individual the *Summum Bonum* is his highest happiness and to the race it is the maximum happiness of the greatest number, it would seem as if these should be the supreme ends. But it is evident that, whatever is accepted as the chief good, anything which tends to secure it should be appropriated, and anything tending in an opposite direction should be avoided. If now it should appear that to gain happiness for one's self, egoistic happiness must not be held up as an end of effort, and if to so advance it is the surest way to defeat the object of acquiring it, then, doubtless, this *Summum Bonum* should not be made a principal much less the supreme end of the individual's action. This supposition is

in strict accordance with fact, and this constitutes the Fundamental Paradox of Hedonism. And yet it is not so paradoxical as it would seem to be at first sight. For the social constitution and condition of mankind not only make it possible but render it inevitable that men shall find their own happiness in the happiness of others about them. The continuance of the race cannot be secured unless human beings associate together; and they will not associate together unless they find pleasure in each other's society; but they *do* associate and they *do* naturally delight in gregariousness to a greater or less degree. Therefore, one of the means of securing egoistic happiness is altruism. Holding up to one's self egoistic happiness as a principal end concentrates the attention upon self, and reduces the flow of benefits which comes from disinterestedness or rather from interest in the welfare of others, thus cutting off the supply coming from one great source of happiness. If such an end is kept before the mind as an ideal, the dispositions of the will are drawn towards it, intermediate ends range themselves under it, and the special objects of desire relate directly to self and selfish enjoyment. The virtues tend to disappear and the vices to increase. Charity faileth, and coldness, malevolence and cruelty take its place. Reacting upon the individual, this ensures towards him a like treatment to that which he visits upon others. The predatory impulses are revived and society tends to fall asunder, to the detriment of each one. But by altruistic dispositions and conduct the prosperity and happiness of each individual is increased and made more secure through the prosperous and happy condition of all. Thus, proceeding from the fact of the existence in man naturally of the primary original pleasure of society, creating an appetite for the presence and companionship of his fellows as necessary and as irresistible as the appetite for food or sleep, it appears that to cherish as a supreme end toward which the dispositions are consciously directed that ideal which, when realised, is the individual's *Summum Bonum* is to prevent such a realisation and defeat its own object. From the same fact it does not equally follow that to seek as an end the highest happiness of the greatest number or the chief good of the race is always the surest way to secure the individual's chief good. It does appear, however, that to hold up as a principal end the happiness of *some* others is a most certain means to the individual of attaining his *Summum Bonum*. How wide the circle of altruistic regards should be for the individual's happiness must be determined by circumstances. But maintaining as a principal end the highest happiness of the greatest number may throw an individual out of the pale of the sympathies of his immediate

neighbours and may bring upon him obloquy, persecution, and perhaps death, whereas a subserviency to the demands of his fellows near by may bring to him honour and prosperity, although the wants of his constituency are directly opposed to the maximum felicity of the maximum number. If, however, by inheritance or education we have so strong an altruistic constitution as to cherish the highest altruistic ideals before all others, to work for the happiness of the greatest number may be to him his own greatest joy, and beside this work and this joy, he will esteem as nothing perils, hardships and calamities. "Yea, doubtless, and I count all things but loss for the excellency of the knowledge of Christ Jesus, my Lord; for whom I have suffered the loss of all things and do count them but dung that I may win Christ." In the spirit and enthusiasm of Paul a man may devote himself to the realisation of the most general of altruistic purposes and find therein his own most complete satisfaction. Objectively considered, this may not secure to a person his own individual *Summum Bonum;* subjectively regarded, however, it does so in such a case. And to establish such a state or habit of mind that the individual is happy only in devoting himself to the highest altruistic ends is for the interest of the race generally. The general ethical *Summum Bonum* is the maximum happiness of the greatest number; that such a good be realised is the greatest desideratum for human kind. Therefore in the education of individuals it is proper to inculcate as a principal end of volition and action the greatest happiness of the greatest number. Each man *ought* to make it a principal end; for the obligation indicated by the word *ought* arises from the social condition of mankind, and has no meaning except with reference to a man's connexion with sentient beings other than the Ego. A person ought to do this or that because the interests of others require that he should, and the ultimate reason for the force of this imperative is his subjective pleasure of society, demanding the presence, comfort, and help of his fellows. If then a person ought with respect to other sentient beings to make the ideal of highest general happiness a principal end, and can be made to take his greatest pleasure in doing what he ought, he has followed the best means to achieve his individual *Summum Bonum.* As the world progresses and the spirit of altruism becomes more far-reaching and pervasive, this coincidence of the ethical *Summum Bonum* with the egoistic *Summum Bonum* grows more complete. While the coincidence is incomplete, however, it will not always be true that the happiness of self is best reached by seeking the happiness of the many as an end, though it will be true that egoistic happiness will be best secured by

aiming at the happiness of *some* others than self, and not by aiming principally at one's own happiness. Yet the interest of the many will unyieldingly demand that the highest happiness of the greatest number be cherished and favoured as a chief end by each individual, and this interest of society will always create an ethical imperative to follow this chief end, whose influence never can be wholly null upon any one, but which will be increasingly felt. The nearer any individual can come to making the ethical *Summum Bonum* his supreme end, the more fully will he satisfy the requirements of this social obligation.

If a person have no very general ends at all but is governed by more particular ones, nevertheless his particular ends will be determined for him by his circumstances, and his course so shaped by his environment as to make his life perhaps as happy as if he selected general ideal ends and consciously followed them. He drifts with the current, and its onward flow carries him forward and the stream constantly presents ends for him to direct his attention toward, though he may not know what will succeed them or whither they will take him. This is the situation of a very large fraction of mankind; they live from hand to mouth, from day to day, and know not what will become of them; but nature provides for and takes care of them, seeing to it that they do not fail to get a share of happiness. Sometimes they are happier indeed than many of those who seek to pilot their lives by general ideals and whose aims are grander, more intelligent, and seemingly more worthy.

In conclusion, therefore, let it be observed that in the light of psychological facts, brought out by the most accurate observation, and made more evident by a rigid analysis of mental phenomena, the Epicurean doctrines, amplified in some directions, to be sure, and limited in others, but still substantially unimpaired, furnish us with the key which solves the problems connected with the *Summum Bonum;* and that despite misunderstandings, and obloquy heaped upon it, theirs is after all, in the words of Balzac characterising the teachings of Francis Rabelais, "that good philosophy to which we shall always be obliged to return".

DANIEL GREENLEAF THOMPSON.

V.—REPLIES TO CRITICISMS ON *THE DATA OF ETHICS.*

An ethical writer who was required to treat of right and wrong conduct, while saying nothing about any purpose to be effected by conduct, would be greatly perplexed. Were he forbidden to bring in the thoughts of good, better and best, in relation to results, moral distinctions among actions would not be easily expressed. I make this remark because Mr. Sidgwick, in his article in Mind XVIII., entitled "Mr. Spencer's Ethical System," quoting from me the phrase, "conduct falling short of its ideal," remarks:—

> "The frankly teleological point of view from which, in this book, Mr. Spencer contemplates the phenomena of Life generally, seems worthy of notice; since in his *Principles of Biology* he seems to have taken some pains to avoid 'teleological implications'."

That a science which has for its subject-matter the characters of the ends pursued by men and the characters of the means used for achieving such ends, can restrict itself to statements in which ends are not implied, is a strange assumption. Teleology of a kind is necessarily involved; and the only question is whether it is of the legitimate or illegitimate kind. The contrast between the two may readily be shown by a biological illustration. If I speculate concerning the stony shell of a gromwell-seed, so hard that it is uninjured by the beak of a bird which swallows the seed and effectually resists the grinding actions of the bird's crop; and if I argue that this hard shell was provided for the purpose of protecting the seed, and thus securing its eventual germination; I am arguing teleologically in the vicious way. If, on the other hand, my interpretation is that among the seeds of some remote ancestral plant, one with an unusually thick shell passed away uninjured by a bird's beak and stomach, while the rest with thinner shells were broken up and digested; and if I infer that among the seeds of the plant originating from the undigested seed, generally inheriting this greater thickness, those most frequently lived and propagated which had the thickest or hardest shells, until, by survival of the fittest, shells of this extreme density, completely protective, were produced; and if I argue that maintenance of the species was throughout this process the end more effectually subserved; I am also arguing teleologically, but in the legitimate way. There enters the conception of a cause for the genesis of the hard shell, which is, in a sense, a final cause—not that proximate cause constituted

by the physiological processes going on in the plant, but a cause remote from these, which, nevertheless, so far determines them that in its absence they would not exist. And it is thus with biological interpretations of structures and functions in general. The welfare of the organism, or of the species, is in every case the end to further which a structure exists; and the difference between a legitimate and an illegitimate teleology is that, while the one explains its existence as having gradually arisen by furthering the end, the other gives no explanation of its existence other than that it was put there to further the end—a final cause of the "barren virgin" sort.

Throughout the *Data of Ethics*, as throughout every ethical treatise, ends are constantly in view, and the interpretations have unceasing reference to them. I have, indeed, in a chapter on "The Physical View" of Ethics, treated of conduct as low or high, according as it subserves in a less or greater degree, maintenance of a moving equilibrium; which is, I think, a more unteleological way of regarding it than has been followed by any ethical writer. In this chapter the evolution of that which we ordinarily conceive as higher conduct, is presented as a process expressible in terms of matter and motion. For the implication of the argument (in harmony with an argument contained in two chapters in the *Principles of Biology* on direct and indirect equilibration) is that, inevitably, those aggregates in which the moving equilibrium is the best, are those which remain outstanding when others disappear; and that so, by inheritance, the tendency is to the establishment of an ever-better moving equilibrium: higher conduct is defined apart even from consciousness—apart from alleged human ends or assumed divine ends. When, in the next chapter, it is shown that what we call, in physical language, a better moving equilibrium, is, in biological language, a better fulfilment of functions, and, consequently, a life which is at once wider and longer; the implication is that a wider and longer life being the end, conduct is to be judged by its conduciveness to this end; and throughout two subsequent chapters this point of view is maintained. But these chapters are nowhere illegitimately teleological. Had I accepted the moral-sense doctrine as ordinarily understood—had I alleged in mankind a supernaturally-given consciousness of obligation—had I asserted that men are endowed with sympathy to enable them the better to co-operate in the social state; I should have been chargeable with teleological interpretation of the vicious kind. But since my interpretation is avowedly opposed to this—since I regard those faculties which produce a conduct favourable to welfare under the conditions imposed by the social state, as themselves the products of social life, and

contend that they have step by step established themselves by furthering social life, the charge seems to me peculiarly inapplicable.

Another criticism made by Mr. Sidgwick is that I have not given that disproof of Pessimism which, for the substantiation of my doctrine, I am bound to give. He writes:—

> "Now, after all that has been said of the importance of considering human conduct in connexion with the 'universal conduct' of which it is a part, I think that this transition from 'quantity of life' which was stated to be the end of the latter to 'quantity of pleasure' is too rapidly and lightly made. Pessimism, as Mr. Spencer himself says, stands in the way, declaring that life does not bring with it a surplus of agreeable feeling. We expect therefore a scientific confutation of Pessimism; and I am unable to perceive that this expectation is ever adequately realised. Indeed I am unable to find any passage in which Mr. Spencer expressly undertakes such a confutation. And yet he can hardly think that pessimism is sufficiently confuted by demonstrating that the common moral judgments of mankind imply the assumption that life, on the average, yields a surplus of pleasure over pain. This is not establishing morality on a scientific basis."

I am surprised that one so acute in making distinctions as Mr. Sidgwick, should have so greatly misapprehended my position. It is perfectly true that I nowhere expressly undertake a confutation of Pessimism; but it is also true that it nowhere devolves upon me to do this. If Mr. Sidgwick will re-read the chapter in which the controversy of Pessimism *versus* Optimism is referred to, he will perceive that I have uttered no judgment concerning the issue, and that, for the purpose of my argument, no such judgment is called for. My motive for comparing their views was to show that "there is one postulate in which pessimists and optimists agree. Both their arguments assume it to be self-evident that life is good or bad, according as it does, or does not, bring a surplus of agreeable feeling." By proving that the two schools have this postulate in common, I am not committed to any judgment concerning the truth of either of their conclusions. I have said that *if* the pessimist is right "actions furthering its [life's] continuance, either in self or others, must be reprobated," while, conversely, they must be approved *if* the optimist is right: the implication being that opposite systems of ethics emerge according as one or other of their estimates of life is accepted, but that both systems proceed upon the assumption that happiness is the end of conduct. The sole object of the chapter is to show "that no school can avoid taking for the ultimate moral aim a desirable state of feeling called by whatever name—gratification, enjoyment, happiness". Surely it is one thing to contend that optimists and pessimists agree in the belief that life is of value only

if it has, on the average, an accompaniment of desirable consciousness, and another thing to contend that it has such an accompaniment. Had Mr. Sidgwick said that by the general argument of the work I have tacitly committed myself to the optimistic view, he would have said rightly. But, as shown, my reference to the controversy was made without any such purpose as that of justifying optimism; and my position was clearly enough implied to be that the arguments of the work are valid only for optimists.

But now, having pointed out that the conclusions contained in the *Data of Ethics*, in common with the conclusions contained in ethical treatises at large, can reasonably be accepted only by those who hold that life in the aggregate brings more pleasure than pain, or, at any rate, is capable of bringing more pleasure than pain, I go on to show that the tacit optimism which pervades the work, has a wider basis than Mr. Sidgwick recognises. He says that "in Mr. Spencer's view, pessimism is indirectly confuted by the argument—given as an 'inevitable deduction from the hypothesis of evolution'—which shows that 'necessarily throughout the animate world at large, pains are the correlatives of actions injurious to the organism, while pleasures are the correlatives of actions conducive to its welfare'." This is true as far as it goes; but, ignoring as he does all passages concerning the universal process of adaptation, Mr. Sidgwick omits a large part of the evidence favouring optimism. The chapter on the "Relativity of Pains and Pleasures" sets forth and illustrates the biological truth that everywhere faculties adjust themselves to the conditions of existence, in such wise that the activities those conditions require become pleasurable. The pains accompanying the inactions of faculties for which changed conditions have left no spheres, diminish as the faculties decrease; while the pains accompanying the actions of faculties over-taxed under the new conditions, diminish as the faculties grow, and become pleasures when those faculties have acquired the strengths which fulfilment of the conditions requires. This law is alike inferable *a priori* and proved *a posteriori*, and yields a qualified optimism as its corollary—an optimism qualified by the conclusion that the life of every species of creature is happy or miserable according to the degree of congruity or incongruity between its nature and its environment; but that everywhere, decrease of the misery or increase of the happiness, accompanies the inevitable progress towards congruity. Whence it follows that in the case of mankind, pessimism may be locally true under certain conditions (as those which have fostered the creed which makes annihilation a blessing), while optimism may be locally true under conditions of a more favourable kind;

but that with the increasing adaptation of humanity to social life, the excess of pleasures over pains which warrants optimism, must become ever greater. And here let me point out in passing, how, in so far as judgment of an ethical system depends on the tacit acceptance of optimistic or pessimistic views, it can be rightly guided only by a knowledge of biological laws. Mr. Sidgwick is at one with moralists in general in thinking that the truth or falsehood of moral doctrines may be determined without study of the laws of life. He asks "In what way then does Science—that is, Biology, Psychology, and Sociology—provide a basis for this 'truer ethics'"; and in a large measure the purpose of his criticism is to show that such science does this in no appreciable way. Above, however, we see that the acceptability of a system of ethics, depending as it does on the pre-acceptance of optimism or pessimism, depends on the pre-acceptance or pre-rejection of certain ultimate biological generalisations. It is, indeed, looked at broadly, a remarkable belief that while ethical science is concerned with certain phenomena of life, it is a matter of indifference in judging about these phenomena, whether the laws of life are known or not.

The way in which Mr. Sidgwick ignores biological generalisations is curiously shown in a subsequent passage, in which, respecting the ethical method I contend for, he says :—

> "For instance, its scientific claims are plainly declared in chapter v., on 'Ways of Judging Conduct'; from which we learn that Mr. Spencer's way of judging it is to be a high priori road. He will not rely on mere generalisation from observation of the actual consequences of different kinds of conduct; it is the defect of current utilitarianism that it does not get beyond these merely empirical generalisations; Mr. Spencer, on the other hand, proposes to 'ascertain necessary relations' between actions and their consequences, and so to 'deduce from fundamental principles what conduct *must* be detrimental and what conduct *must* be beneficial'. Those are brave words, &c."

If, concerning an artillery officer who, instead of ascertaining experimentally the ranges given by certain elevations of his gun, calculated these ranges from the laws of motion and atmospheric resistance, Mr. Sidgwick were to say that he pursued the "high priori road," he would apply this expression with much the same propriety; since the method I contend for is that of deducing from the laws of life under given conditions, results which follow from them in the same necessary way as does the trajectory of a cannon-shot from the laws of motion and atmospheric resistance. All developed science may be characterised as "high priori" if the drawing of deductions from premisses positively ascertained by induction is to be so called. Had I given no explanation of my meaning, I should have been less surprised at the passage above quoted. But by a series of

examples, beginning with the innutrition of a limb which follows tying of its main artery and ending with the social mischiefs caused by calumny, I have, in § 22, shown what I mean by the derivation of ethical principles from the laws of life; and I have, in subsequent chapters, exhibited this derivation systematically. Nevertheless, because, during our transitional state, in which humanity is changing and social conditions are changing, this method does not suffice for development of a code of conduct in full detail, Mr. Sidgwick, ignoring the derivations of the leading moral restraints in the section I have named, and in the subsequent chapters, thinks the reader will be "disappointed". With equal reason might he represent the biological student as disappointed because, from physiological laws as at present ascertained, the details of pathology and therapeutics cannot be inferred.

All this, however, is introductory to Mr. Sidgwick's criticism on the view I take of the relation between Absolute Ethics and Relative Ethics. My position is that, as all ethical theory is concerned with ideas of worse and better in conduct, and that as the conception of better involves the conception of best, there is, in all cases, an ideal conduct tacitly assumed; that before valid conclusions can be drawn, this ideal conduct must be conceived not in a vague and shifting way but definitely and consistently; and that no definite and consistent conception of ideal conduct can be framed without assuming ideal social conditions. Mr. Sidgwick does not, I think, show that this position is untenable, but contents himself with raising difficulties. Into the details of his criticism I cannot follow him without occupying too much space. I may, however, deal generally with the view he finally implies, that such an ideal is useless, and that the theory of human and social evolution has no practical bearing on the guidance of conduct. He says:—

> "Even if we could construct scientifically Mr. Spencer's ideal code, I do not think such a code would be of much avail in solving the practical problems of actual humanity. . . . Even supposing that this ideal society is ultimately to be realised, it must at anyrate be separated from us by a considerable interval of evolution; hence it is not unlikely that the best way of progressing towards it is some other than the apparently directest way, and that we shall reach it more easily if we begin by moving away from it."

And Mr. Sidgwick concludes that "the humble and imperfect empirical method" can be our only guide.

Here, then, we have a distinct statement of the opinion that for practical purposes it comes to the same thing whether we do or do not entertain an ideal of conduct and of society. In our estimate of a proximately best, it will make no difference

whether we have or have not any conception of an ultimately best. So long as the immediate effects of a measure promise to be good, it is needless to consider whether, while achieving them, we cause changes in men and society, and whether, if we cause changes, these will carry men and society towards, or away from, their highest forms. This position may be dealt with first generally and then more specially.

The empirical method, as upheld by Mr. Sidgwick, estimating, as well as may be, good and evil results, that is, totals of pleasures and pains, postulates as a necessary basis for its conclusions, constancy of relation between pleasures and their causes and between pains and their causes. If, from experience of men as we now know them, it is inferred that a certain policy will be conducive to a surplus of pleasures over pains; and if the establishment of that policy, say by public institutions, is considered as therefore ethically justifiable, or rather, imperative; then the implied assumption is that the surplus of pleasures over pains producible by this course in existing men, will be also producible in their descendants. This, however, cannot be inferred unless it is assumed that men will remain the same. Hence the question whether men are or are not changing, becomes an essential question. If they are not changing, the empirical estimates may be valid. If they are changing, these estimates must be doubtful, and may be entirely false. It needs but to contrast the pleasures of combat, which a Norseman conceived as those of his heaven, with the pleasures pursued by a modern man of science, or to contrast the repugnance which a savage shows to continued industry, with the eager pursuit of business by a citizen, to see that this change in the relations between actions and the accompanying feelings, is no nominal difficulty in the way of the empirical method. It becomes manifest that if humanity is undergoing modifications, then, guidance of conduct by direct valuations of pleasures and pains, assuming as it does that what is true now will continue to be true, is a guidance likely to be erroneous. Be it a policy advocated, a law passed, an agency set up, a discipline used, an injunction urged, if its sole warrant is that of furthering the happiness of men as they are, then, if men are becoming other than they are, furtherance of their happiness in future cannot be inferred, and there may result hindrance to their happiness.

Mark, now, another implication. If it is admitted, as it must be, that guidance by estimated surplus of pleasures over pains, as now observable, is vitiated if the relations between actions and feelings change; then it must also be admitted that guidance by such estimated surplus can be made trustworthy, only by knowledge of the ways in which these relations change.

If we simply know that these relations between actions and feelings will change, without knowing how they will change, then we simply know that our empirical guidance will go wrong, without knowing the way in which it will go wrong. Hence the question, whether there is at work that adaptation of constitution to conditions which the doctrine of evolution implies, becomes the cardinal question. If, recognising the relativity of pleasures and pains, we conclude that those activities which social life necessitates in men, tend to become more pleasurable, while the pains consequent upon the restraints on unfit activities diminish, then the question of first importance becomes —What general form of activities is it to which humanity is being adjusted?—What are the ideal social conditions to which men's natures are being so moulded that they will have no desires out of harmony with those conditions? If we can frame a conception of the ideal social state, and of human conduct as carried on in it, then we have in view an ultimately best, serving to help us in discovering the proximately best, we have a means of correcting whatever empirical guidance may be obtained by valuation of pleasures and pains as now experienced; since, beyond the immediate effects of any course, we are enabled to see whether the remote effects are such as further or hinder the required re-moulding of human nature.

The contrast between Mr. Sidgwick's belief and mine respecting the relation between ethical doctrine and the theory of human and social evolution, will best be shown by an analogy. In the moral education of a child, proximately good results may be obtained in various ways. Its crying may be stopped by a *bon-bon;* or its mother may alarm it by a threat; it may be led to learn a lesson by fear, or by the promise of a treat, or by the desire to please; and in later childhood there may come, on the part of the father, a control which maintains order by regulating every action, or one which allows a considerable amount of freedom and concomitant experience of good and evil results. Is it or is it not desirable to keep in view the fact that presently the child will be a man, and to frame a conception of what the man ought to be? Very frequently the mother, pursuing the empirical method and seeing immediate benefits follow, ignores the question of this ideal and the conduciveness of her discipline to achievement of it; and not uncommonly the father, especially if of the clerical sort, making numerous peremptory rules, considers scarcely at all whether his much-regulated boy is acquiring the qualities which will make him a self-regulating man. Shall we say that such proximately beneficial methods are the best which can be devised; or shall we not rather say that there can be no good education which does not bear the ideal con-

stantly in view, and consider methods partly in reference to their immediate results, but still more in reference to their ultimate results? And if so, must we not say the same with respect to adult humanity, which undergoes an education by social discipline? Of course if Mr. Sidgwick agrees with those who hold that human nature is unchangeable, his position is tenable. But if he admits that man is adaptable, it becomes of some importance to consider of every proposed course, whether, by the entailed modification of conditions, it furthers or hinders progress towards the highest conditions and the highest human nature accompanying them. Though our steering must doubtless be proximately guided by recognition of rocks and sandbanks, yet, if we believe in a haven to be eventually reached, it is needful from time to time to consult the compass, and see whether, while avoiding the rocks and sandbanks, we are also moving towards our haven.

Had this reply to Mr. Sidgwick been published immediately after his criticism, I should probably have said no more in defence of my views. But there have since appeared in MIND two other criticisms, respecting which it now seems needful to say something. The first in order of date is that of Prof. Means (No. XIX.). Space will not allow me to deal with it more than briefly.

Prof. Means considers that I am unjustified in saying of current Utilitarianism that it is purely empirical, and in contrasting it with what I distinguish as rational Utilitarianism. Considering that, as we have just seen, Mr. Sidgwick, who is now the foremost representative of Utilitarianism as hitherto conceived, argues against me that it must continue to be purely empirical, the injustice of my allegation is not apparent. By way of showing that Mr. Mill, in his *Logic*, takes the same view that I do, Prof. Means says:—

> "The very illustration used by Mr. Spencer in regard to 'the course of one who studies pathology without previous study of physiology' as resembling the usual course of moralists, is one used by Mill for precisely the same purpose:—'Students in politics thus attempted to study the pathology and therapeutics of the social body, before they had laid the necessary foundation in its physiology'."

And there follows what seems to be an insinuation that I was cognisant of this passage. Some thirty years ago I probably was. I read Mr. Mill's *Logic* in 1851 or 1852, and save those parts which, in successive editions, have concerned the amicable controversy carried on between us respecting the test of truth, I have not read it since. I go on to remark that, as the passage itself shows, and as appears more fully on turning to the volume,

the analogy as used by Mr. Mill refers to social science; while the analogy is used by me in elucidation of ethical science. Prof. Means says it is "used by Mill for precisely the same purpose". Now though it is true that politics and morals are intimately related, the belief that they are identical is, I think, peculiar to Prof. Means, and is likely to remain so.

Let us, however, turn to the main issue—whether the Utilitarianism of Mr. Mill and previous writers of the same school, did or did not recognise that dependence of ethical laws upon the laws of life, which I have insisted upon, and did or did not propose to establish them deductively from such laws. To whatever extent it may be true that utilitarians have been conscious of a relation between rules of right conduct and the furtherance, direct or indirect, of vital activities, there could not come the full conception of a resulting method, until biological generalisations of the widest kind had been reached and accepted as data for ethical reasoning. Now up to recent times, biological generalisations of this widest kind had either not been reached at all, or were known only by naturalists, and accepted by very few of these. In Bentham's day, the consequences deducible from the universal law of adaptation, could not take their place in ethical speculation, for the reason that, in the sense involved by the doctrine of Evolution, this law had not been heard of by ninety-nine cultivated people out of a hundred, and was pooh-poohed by nearly all those who had heard of it. Again, whatever occasional observations had been made respecting the relations of pleasures and pains to bodily welfare, could not lead to any such ethical conclusions as those involved by acceptance of the doctrine of Evolution, which implies that life of the sentient kind has continued and developed only in virtue of these relations. Nor, without the doctrine of the relativity of pains and pleasures, established by a wide biological induction, could there be completed the necessary basis for a scientific ethics. Similarly, into that division of ethics which is concerned with its psychology, the theory of mental evolution enters as an indispensable factor. Though Mr. Mill did not combat the hypothesis of inherited mental modifications, yet he never adopted it in such a way as to qualify his experiential interpretation of ideas and feelings; and, consequently, he was debarred from entertaining that view of the moral sentiments and moral intuitions, which yields an explanation of their varying functions under varying social conditions, and affords a warrant for inferring their ultimate adjustment to an ultimate social state. In brief, then, the laws of life and of mind, referred to by me as those from which a scientific ethics is to be deduced, are laws which were either not known, or not

admitted, by utilitarians of the empirical school; and it was therefore not possible for them to entertain that conception of rational ethics which I have put in antithesis to empirical ethics.

Prof. Means comments on the contrast I have drawn between justice as an end and happiness as an end. He quotes me as saying that—

> Justice "'is concerned exclusively with *quantity* under *stated conditions*, whereas happiness is concerned with both *quantity* and *quality* under *conditions not stated*'. It refers to 'the relative amounts of actions, or products, or benefits, the natures of which are recognised only so far as is needful for saying whether *as much* has been given, or done, or allowed, by each concerned, as was implied by tacit or overt understanding, to be an equivalent'."

To which he objects that—

> "'Differences of age, of growth, of constitutional need, differences of activity and consequent expenditure, differences of desires and tastes,' which Mr. Spencer thinks impossible to be estimated by a utilitarian, must all be estimated before any course of action can be said to be *equivalent* to any other course. And if a comparison of pleasures is impossible, this estimate is impossible."

The reply is that justice as I have defined it, justice as formulated in law, and justice as commonly understood, is satisfied when those concerned have so acted that no one has been trespassed against by another, and, in case of contract, each has done all that was agreed to be done by him. If there has been direct aggression, greater liberty of action has been taken by the aggressor than by the one aggressed upon. If there has been indirect aggression by breach of contract, such greater liberty of action has again been taken: one has broken the understanding while the other has not—one has seized some advantage beyond that given as an equivalent, while the other has not. Justice is not concerned with equality between the pleasures men gain by their respective courses of action, but only with equality between the freedoms they take in their respective courses of action; and if neither by direct nor indirect trespass have these been made unequal, there is no injustice. If it be said, as by Prof. Means concerning wages given for labour, that very often men are practically coerced by social arrangements into making agreements they would not otherwise have made; then, the injustice exists not in the agreements unwillingly made, but in the social arrangements which have interfered with free volition. If, as appears from his argument, Prof. Means holds that justice comprises, not simply a regulation of actions such that each man shall leave others as much freedom to pursue their ends as he himself takes, but that justice involves the establishment of

equivalence between advantages gained by co-operation, then the reply is that I am not concerned with justice as so conceived. There are socialists who hold that there should be an equal division of benefits among men, irrespective of the values of their several labours. To many it seems unjust that the hard work of a ploughman should bring in a week, not so much as a physician easily gains in a quarter of an hour. Some persons contend that it is unjust that children born to the poor should not have educational advantages like those of children born to the rich. But those deficiencies in the shares of happiness some men get by co-operation, which arise from the inferior natures they inherit, or from the inferior circumstances into which their inferior ancestors have fallen, are deficiencies with which justice, as I understand it, has nothing to do. The injustice which entails on posterity diseases and deformities —the injustice which inflicts on offspring the painful results of stupidity and misconduct in parents—the injustice which compels those who inherit incapacities to struggle with resulting difficulties—the injustice which leaves in comparative poverty the great majority whose powers, of low order, bring them small returns, is an injustice of a kind lying outside of my argument. We have to accept, as we may, the established constitution of things, though under it an inferiority for which the individual is not blamable, brings its evils, and a superiority for which he can claim no merit, brings its benefits; and we have to accept, as we may, all those resulting inequalities of advantages which citizens gain by their respective activities. But while it does not devolve upon me to defend the order of Nature, I may say again, as I have said at greater length already (§ 69), that only in virtue of the law under which every creature takes the good and bad results entailed by its inherited organisation, has life advanced to its present height and can continue to advance. A so-called justice which should equalise advantages apart from capacities, would be fatal; while the justice, rightly socalled, which insists that each shall be as free as others to make the best of his powers, and that nothing shall intervene between his efforts and the returns they naturally bring (as decided by agreement) is beneficent immediately and remotely. This is the justice which, as an end, I have contended is more intelligible than happiness as an end; and I decline to be entangled by Prof. Means in the difficulties which arise when there is substituted a justice which contemplates equivalence of results.

The remainder of Prof. Means's criticisms I must pass over with the remark that, throughout, they similarly display an unusual facility in identifying things which are different.

I turn now to the article of Mr. Alfred W. Benn—"Another View of Mr. Spencer's Ethics"—contained in the last number of MIND. Here, too, I must limit myself to the earlier criticisms.

Mr. Benn blames me for expressing a positive opinion respecting the inevitableness of the hedonistic view of morals. He says :—

> "To declare pleasure a necessary form of moral intuition must in the present state of the controversy be pronounced a piece of unwarrantable dogmatism."

As commonly understood, dogmatism implies authoritative assertion without the giving of reasons. Considering that the passage to which Mr. Benn refers, closes a chapter devoted to an examination of all the various standards of goodness in conduct; and considering that the analysis aims to show, and does, I think, show, that happiness as an ultimate end is in every case involved; it seems to me an unusual application of the word to characterise as dogmatic a proposition which sums up the results of the inquiry. A dogmatism which appeals step by step to the judgment of the reader, is of a species not before known.

I remark this by way of introduction to Mr. Benn's first criticism. Respecting my statement that optimists and pessimists by their arguments both imply acceptance of the hedonistic view, Mr. Benn says :—

> "Here with all deference I must observe that Mr. Spencer is doubly if not trebly mistaken. In the first place, although Schopenhauer and his school are hedonists, it is perfectly possible to be a pessimist without thinking that pleasure is the end of life and that we do not get enough of it. Some persons if they were convinced that certain knowledge was unattainable, even if they expected it to yield them no pleasure, might regard that as a reason for preferring non-existence to existence. In the second place, as it is generally better if possible to meet your adversary on his own ground, an optimist who believes that life affords a surplus of pleasurable feeling may very well advance that argument without conceding that such a surplus alone makes life worth having. And, thirdly, as a matter of fact the optimists do not make this concession. M. Caro, an eminent representative of the spiritualistic school in France, has distinctly declared that, granting the excess of pain over pleasure to be possible and even probable, he still remains an optimist, that even an unhappy life is worth living, and that suffering is preferable to nonentity."

The first of the three proofs that I am mistaken is curiously hypothetical. "Some persons" "*might* regard" non-existence as preferable to existence, *if* they thought "certain knowledge was unattainable," even *if* they expected no pleasure from attaining it. Disproof of my statement concerning the beings we know, by the help of supposable beings, is not, I think, very satisfactory. But passing over this, let me point out that if the

attainment of "certain knowledge" were an adequate motive for existence, and inability to attain it a motive for preferring non-existence, it is difficult to conceive otherwise than that the attainment of it would be a satisfaction; and a satisfaction of whatever nature is a kind of pleasure. To say that the attainment of the knowledge was not expected to yield them any pleasure, is to say that they would regard the attainment of the knowledge with indifference; and if they were indifferent to the attainment of it, how could attainment of it be regarded as a sufficient reason for *preferring* existence to non-existence?

Mr. Benn's second disproof, somewhat hypothetical also, does not, I think, much strengthen his case. He says:—

> "An optimist who believes that life affords a surplus of pleasurable feeling may very well advance that argument without conceding that such a surplus alone makes life worth having."

Is this really another disproof, or only the same re-stated? Without naming any end, other than pleasurable feeling, which "makes life worth having," it alleges that even an optimist may believe in such an end. I do not see that by leaving this end unspecified, and supposing an optimist who thinks it a sufficient end, the argument is made different from the last; and the same reply serves. The end, of whatever nature, being one which it is desirable to attain rather than not to attain, implies satisfaction of desire or pleasure. The third argument states in the concrete that which is stated in the abstract in the preceding two, and is the sole argument. This argument is that M. Caro thinks "even an unhappy life is worth living". Now I suspect that were M. Caro cross-examined, it would turn out that the unhappy life which he thinks worth living, is one which, though it brings misery to the possessor, does not bring misery to others, but conduces to their happiness.[1] If M. Caro means that life is worth having even on condition that its possessor, suffering misery himself in common with all individuals, shall aid them in living that they may continue to suffer misery, and shall beget and rear children that they, too, may pass lives of misery; and if M. Caro means that misery is to be the fate of all, not only here but during the hereafter he believes in; then, indeed, and only then, does he exclude happiness as an end. But if M. Caro

[1] Since this was written I have referred to M. Caro's essay, and find he says that if there is really an excess of suffering in the average of human life, "il ne faut pas s'empresser d'en conclure que le pessimisme a raison, que le mal de la vie est absolu, *qu' il est incurable.*" Which makes it clear that M. Caro had in the background of his consciousness the conception of misery to be diminished, that is, happiness to be increased, as a reason for tolerating present misery; and probably this conception was not wholly absent when he wrote "la souffrance vaut mieux que le néant".

says he believes that even under such conditions life would be worth living, then I venture to class him with those who have not practised introspection. I once heard a person assert that a cat thrown across a room could drop in the middle if it pleased; and, presumably, this person thought he could himself do the same. The defective consciousness of his mechanical powers which this person displayed, is, I think, paralleled by M. Caro's consciousness of his mental powers, if he thinks he can believe that existence would be preferable to non-existence did it bring pain to all men throughout all time.

Mr. Benn, however, regards this testimony of M. Caro as conclusive. If there is anyone who says he thinks that universal and eternal human misery is better than non-existence, we must accept his self-interpretation as settling the question; for men never misconceive their own thoughts or fail to understand their own feelings. And then Mr. Benn continues :—

> "*A fortiori* would such persons maintain that a perfectly neutral state of consciousness, a life totally devoid both of pleasure and pain, is worth having. Thus the appeal to authority completely breaks down, a single recusant being enough to invalidate it."

Passing over the question whether any such recusant exists, it may be as well, before admitting the alleged breakdown, to ask what is the meaning of the word 'worth,' as used in the above relation. There presents itself the problem to define 'worth' in terms which exclude all reference, direct or indirect, to satisfaction, or pleasure, or gratification. It is required to find a case in which men, or things, or acts, are contrasted as having worth and as being worthless, without there entering the conception of preference; or if the conception of preference enters, then it is required to state what kind of preference it is which takes place between things of which one is not liked more than the other; or if difference of liking is admitted, then the question to be answered is what kind of liking is it which does not connote pleasure. Similarly with the words used in a sentence which shortly follows :—

> "For the question is not whether pleasure is a good and pain an evil, but whether pleasure is the only good and pain the only evil."

Which question at once raises the inquiry for the kind of evil which, neither proximately nor remotely, to the actor or to any other being, now or hereafter, produces any pain. Until some such kind of evil has been pointed out, I do not see any proposition against which I have to contend: there is merely the alleged possibility of a proposition.

As already hinted, I cannot follow further the course of Mr

Benn's argument, but must leave its validity to be judged by that of this first portion. The only remark I will add, concerns, not a matter of argument but a matter of evidence. Referring to my account of the origin of the religious sanction, Mr. Benn says:—"It seems a pity to disturb such an ingenious and symmetrical theory, but I am not aware that it is supported by any external evidence, while there are strong reasons for dissenting from it". Does Mr. Benn mean that no such external evidence is contained in the *Data of Ethics?* If he does, then the reply is that such evidence, occupying more space than that afforded by the entire volume, would have rather too much interrupted the thread of the argument. Does he mean that I have not given such external evidence elsewhere? Then the reply is that in the first division of the *Principles of Sociology*, evidence so great in quantity is set forth, that I have been blamed for over-burdening my argument with it; and a further reply is that if Mr. Benn wishes for still more such evidence, he will find abundance of it in Nos. II., III., IV., V. and VI. of the *Descriptive Sociology*, where the religious ideas of some eighty uncivilised and semi-civilised peoples are described in detail. In disproof of my view concerning the genesis of the political and religious controls, Mr. Benn goes on to say:—"Modern inquiries into the history of jural conceptions show that among primitive men kings were not legislators but judges"; and by way of showing what happens among "primitive men" he instances "the original judgments or Themistes" of the Greeks. On this my comment is that Mr. Benn seems unacquainted with inquiries, more "modern" than those he refers to, which show that theories about primitive ideas and institutions, based on facts furnished by historic peoples, are utterly misleading. The origins of religious and jural conceptions and usages, Mr. Benn thinks may fitly be sought in the traditions of the early Greek world; though, as Curtius remarks (Bk. I. 136-7) this "is not . . . a world of beginnings; it is no world still engaged in an uncertain development, but one thoroughly complete, matured and defined by fixed rules and orders of life". For myself, in seeking for origins, I prefer to look for them among peoples who have not yet arrived at a stage in which there are metal weapons and metal armour, two-horse war-chariots, walled towns, temples, palaces, and sea-going ships.

I had originally intended to notice briefly, certain other criticisms—one by Prof. Calderwood, which formed the inaugural lecture to his class at Edinburgh in the session of 1879, and was afterwards published in the *Contemporary Review*; and the other by Prof. Wace of King's College, which was first addressed

to the Victoria Institute, and also afterwards published in the *Contemporary Review*. But I have already occupied as many pages of MIND as I can reasonably ask for; and, further, I cannot longer suspend more important work for which my time and energies are already insufficient. Replying to criticisms is, indeed, a bootless undertaking, save in those cases where the positions defended are further elucidated, and so rendered more acceptable to those who are not committed to antagonist views. On such as are committed to antagonist views, replies, however conclusive, produce no appreciable effects; and especially is this so when such antagonist views are involved in theological systems.

HERBERT SPENCER.

VI.—NOTES AND DISCUSSIONS.

RECENT RESEARCHES ON HYPNOTISM.

Last January, Herr Hansen, a Danish 'magnetiser' widely known throughout Germany, gave a series of public exhibitions in Breslau, which lasted several weeks and were very largely attended. Well-known citizens came upon the platform, and after looking fixedly at a bright glass button which they themselves held some eight inches from and just above the level of their eyes, fell more or less profoundly into the hypnotic state. The popular attention which the Slade-Zöllner scandal has so recently drawn to spiritism with its phenomena of trance and mediumship, together with the weird mysticism which is so fundamental and so easily-recognisable a trait of the Sclavonic type of character, combined to make these exhibitions the sensation of the hour in Breslau. Many forms of superstition which seemed forgotten were warmed into life in a way now impossible in most communities farther west, until the authorities of the city and of the university invited Professor Heidenhain to press forward with investigations which he had already begun, and to follow Hansen upon the same platform, repeating and explaining in a more scientific way the experiments of the latter. Hansen cordially co-operated and lent himself to many forms of experimentation, conforming to all required conditions of observation so far as his engagements elsewhere would allow.

Before describing Heidenhain's experiments, it should be mentioned that the physicist, Weinhold, prompted also by Hansen's performances in Chemnitz, had investigated the conditions by which an abnormal inhibition of the will could be brought about.[1] These he found, as

[1] *Hypnotische Versuche*, von Professor Adolph F. Weinhold, Chemnitz, 1879, pp. 28.

Braid, whose work is but little known in Germany, had done, to be passes, fixation, rubbing, &c. Sometimes, when other means failed, the hypnotic condition was caused by walking the subject up, down, and around, at all arbitrary paces and angles, till he became perfectly passive to a gentle but relatively irresistible force; sometimes by a strong appeal to the imagination, by means of solemn music, and an array of mysterious apparatus. According to Weinhold, the hypnotic condition begins in a gradual loss of taste, touch, and the sense of temperature. Next colours are imperfectly distinguished, then forms grow indistinct, and then the eye is immovable and nothing is seen. The ear never slept, in his experiments. The subject believes and at last does all that is commanded. Although not all persons can thus influence or be influenced, both powers are not specifically different from powers which all possess. The identification of these phenomena in man with those observed by Preyer in frogs, hens, &c., was an important step, and indicated that they were as susceptible of physiological explanation as is the halo of 'odic' light which often seems to the subject to surround the hypnotiser, and which is a real and natural creation of the fancy of the former out of the subjective light *(Eigenlicht)* of his own eye.

In response to a courteous invitation of Professor Heidenhain, the writer of this Note, then residing in Leipsic, spent a week in Breslau and witnessed the following phenomena, most of which have been more fully described by Professor Heidenhain.[1]

An officer brought in several stupid but burly soldiers from the barracks, who spoke only Polish, and, as far as could be made out afterwards, had never heard of such performances. Each one was given a loud-ticking watch to hold to his ear, and told to listen intently, while the colonel threatened them savagely if they fell asleep. In five minutes two of them were in a profound cataleptic sleep, insensitive to pain, and on being awakened ten minutes later, declared they had not slept. The professor's brother, a tall, athletic, duelling medical student, the picture of health, and said to be a scholar of much promise, has been hypnotised on an average two or three times a-day for two months, and scoffs at the idea of being the worse for it. The writer was invited to stroke the ball of this student's left thumb with his own forefinger as lightly as possible, and always in the same direction. Very soon the student's thumb, then the hand, then the arm and shoulder, were in a state of violent tetanic cramp, which passed down the right arm, then down the left leg, then the right, and then extended to the muscles of the jaw and to those of the neck. The whole body was rigid and trembling, and the power of speech was gone. Directed by the professor, I struck the left arm smartly with the open palm of my hand, and the cramp instantly

[1] *Der sogenannte thierische Magnetismus:* Physiologische Beobachtungen von Dr. Rudolf Heidenhain, ord. Prof. der Physiol. u. Director des Physiologischen Instituts zu Breslau. Vierte vermehrte Auflage, Leipzig, 1880. Translated into English by L. C. Wooldridge (Kegan Paul, 1880).

vanished; his brother started as from a sleep, looked confusedly around him a moment, then seemed to recover consciousness, and, remarking that he had had rather a strong dose, walked across the room and drank a glass of beer.

A constant touch on the back of the neck, between the first and second vertebræ of some subjects makes them perfect imitative machines. Every motion, look, word, inflexion of the person on whom the attention is fixed, is exactly imitated; a long English sentence, *e.g.*, with extreme and grotesque inflexions, was repeated almost perfectly, in every detail, by an old workman in the hospital. The instant the finger is removed from the neck, the repetition stops, often in the middle of a word.

Nor is this the strangest. With a number of his subjects, Professor Heidenhain and his colleagues are able to hypnotise one half of the brain and body, the other half remaining normal. One half the face smiles, the other remains in the familiar immobile, waxy, cataleptic state. One arm and leg can be moved at will, the other not; one eye sees distinctly, the other imperfectly, or not at all. When the right side is hypnotised, aphasia is produced; but *not*, or only exceptionally, when the left side is affected. This is, of course, in accordance with pathological observations which locate the speech-centre in or near the left cerebral convolution, and with the anatomical fact that most of the so-called pyramidal or volitional fibres cross soon after leaving the brain. If the person thus affected be told to make some simple motion with the finger of the normal side, *e.g.*, to rotate the thumbs, the one about the other, and to continue the motion without cessation or interruption while observing another rotate his own thumbs, now in one, now in another direction—a task easy enough in the normal condition—the half-hypnotised person, though believing himself in the full possession of his faculties, finds this impossible. He *must* stop every time the experimenter changes, and generally reverses the motion for an instant, in spite of all his efforts to the contrary; but is immediately able to correct the error and go on as directed. This is almost invariably observed, and is explained by supposing that one half of the brain, being reduced to the condition of an imitating automaton, is mechanically compelled by the retinal impressions to repeat the motion as seen, and that the normal half must correct this impulse by a special act of volition later.

Even one eye alone may be hypnotised, in which case colour-blindness is caused. Prof. Cohn, of Breslau, has made these phenomena an object of special investigation, and has used not only Seebeck's worsted patterns, but Hirschberg's ingenious method of detecting simulants by the crossing of perpendicular lines seen stereoscopically, and even Stilling's yet more confusing tables for detecting and measuring the degree of colour-blindness; but without discovering any traces of feigning. A hypnotised eye which has gazed for a moment at brilliant-coloured figures which seem only variously-shaded grey, when the colours are removed and the eye then suddenly awakened, sees the complementary after-image of the colours which

it has never perceived. The fact that slightly warming the eye-ball, by pressing it gently with fingers which have just been vigorously rubbed, speedily restores the power to perceive colours, indicates that the circulation of blood in the retina is affected; while the fact that atropine removes this induced colour-blindness, or makes it impossible, may perhaps indicate that it is in some way connected with the cramp of the ciliary muscle. The facts thus far observed in this line are generally thought to be irreconcilable with Helmholtz's theory of three fundamental colours, but to be more or less explicable upon the hypothesis of Hering.

With earlier hypnotisers, 'mesmerisers,' or 'magnetisers,' these experiments were successful, almost universally, with women only. Prof. Heidenhain's observations have been entirely on men, and have succeeded with about one student in twelve. With all, the first time is the hardest; and, while many grow so sensitive that a very slight influence makes them immediately unconscious, others, after a while, grow unsusceptible again, and finally lose entirely the power of being affected. Some acquire the faculty of hypnotising themselves, and others, when told that at a certain hour they are requested or influenced to sleep, do so without any of the ordinary means, and without even the presence of another person. Hallucinations are readily caused, if a few verbal hints are given. With some subjects, fibrilar twitches in various muscles, accompanied by other symptoms of increased excitability of the spinal and medullary centres, follow the experiments, which in such cases are always discontinued. Rheumatic patients often make movements with their limbs which seem impossible in their ordinary state. Far-sighted persons always see much nearer than usual. Cramp of the muscles of accommodation is caused in others so intense that they can read type of almost invisible fineness at a distance of an inch or less from the anterior surface of the cornea. The hand-writing in this condition is extremely bad; and some patients, under certain conditions, begin at once to write backward. Heidenhain believes that the blood-vessels on the affected side are expanded, and that a new method of localising the functions of the brain may be developed, from the effects of varying local irritations. As a general rule, with many exceptions, anaemic persons were found to be most easily affected.

A different conception of these phenomena has more recently been developed by Professor Berger, a colleague of Heidenhain, who lays chief weight upon "the psychologic moment of conception [*Vorstellung*] and attention".[1] He observed that when the tongue was stroked from the root toward the tip it was thrust outward. If the stroking was in the reverse or transverse direction the movement of the tongue was the same. If the finger was placed on the outer angle of the eye and the skin gently stroked toward the temple, upward, downward, or toward the root of the nose, both eyes were turned in the direction of

[1] See the *Breslauer Ärztliche Zeitschrift*, 1880, Nos. 10, 11, and 12, "Hypnotische Zustände und ihre Genesis," von Professor O. Berger.

the stroking. By operating thus on both eyes at the same time, but in different directions, the optic axis can be made to diverge, and in a single case one eye was turned upward and the other downward. If the stroking was persisted in in the same direction it often happened that the face and finally the whole body turned toward the same side as the eye-ball. So too the eye-ball and eventually the body of the hypnotised patient was turned in the direction of a noise. Artificial dreams and hallucinations, in some cases even of taste and smell, were evoked in more than twenty individuals. These were observed to arise spontaneously only in a very few cases, and in these their duration was very brief. Some slight suggestion was generally necessary. Musical sounds suggest all the details of a concert which is described and apparently heard with much minuteness of detail. A slight tap or a shake suggests a fight, and evokes plastic, mimetic gestures. If the hands are folded the patient believes himself in church and perhaps at prayer. When salt water is tasted and the patient is told it is beer, he complains that it is sour; if told that it is coffee, he declares that it tastes of grounds. All this while the skin is somewhat analgesic with more or less anæsthesia. The patient distinguishes painful and pleasurable feelings more readily than the more specific qualities of sensation.

Berger believes that the sensory irritation which Heidenhain regards as the chief genetic moment is only a means to an end, and that the cause of these states and phenomena is essentially psychic. If the attention is diverted, the manipulations are of no effect, while the chief aim of the hypnotiser must be to direct and localise the imagination consciously or unconsciously. Every specific group of movements, which have been well compacted by association, can be stimulated or inhibited by any means which command and control the attention. In answer to the objection that these conditions can be caused during cataleptic sleep, Berger urges that in sleep dermal irritations are still effective, and reminds us that the *Vorstellung* can cause many familiar somatic effects which the will cannot. A so-called medium in an honest trance does not become cataleptic, although the dermal irritation and the central excitability are about the same as that of an ordinary hypnotic patient, because the reflex action does not result in an entire inhibition or laming of the will. The different results obtained from different persons are due to difference of conception or imagination. Berger's conclusions then coincide mainly with those of the commission which reported to the French Academy; and the prospect of obtaining exact scientific explanations of these phenomena seems indefinitely postponed. At the same time much good must result for the pathology and physiology of the nervous system. Attention is drawn to the therapeutic value of the "neural treatment," and the necessity of making it methodic. If a morbid direction of the imagination can cause disease, the reverse may aid in curing it. Nervous sleeplessness, certain forms of croup, hystero-epilepsy, &c., are real diseases, however much the imagination may be implicated in their symptom-complex. These Berger

believes he has helped or cured by hypnotism psychically caused. Concomitant changes in the condition of the walls of the cerebral and spinal blood vessels, causing local modification of temperature, are also likely to be demonstrated, and it seems not improbable that these changes may be more or less definitely brought under the category of reflex-action.

The latest contribution to this subject is from Herr Schneider, a teacher of zoology, at present Professor Haeckel's assistant,[1] who has written suggestive pamphlets on *The Sensation of Rest*, and *Distinguishing*, as well as the comprehensive treatise on *The Animal Will* noticed in the last number of MIND by Mr. Sully. The author is ingenious though not always exact or lucid. He attempts to explain hypnotism according to the fundamental conceptions to the development of which his writings are devoted. Consciousness, he thinks, begins when a rudimentary animal "distinguishes" by reacting differently upon different impressions. First conditions and then things are thus distinguished, and different centres soon begin to act independently. Even the lower reflex-centres distinguish and are therefore in a rudimentary sense conscious. Most, if not all, sensations exert (and perhaps exist as) "instinctive" motor-impulses which may or may not be strong and concentrated enough to result in actual motion. Knowledge and will are of course mere developed forms of sensori-motor processes, and like them adaptive. It is a law of normal consciousness that the reproduction of any sensation or perception can have no greater effect than their production had. But consciousness is normal only when many different impressions are acting upon it at the same time from different directions and of different species, each modifying, complementing, but above all inhibiting the natural impulse of motor reaction of the others. Hence the most rational actions can result only from the best and most manifold combination of all these elements of consciousness. High degrees of this all-sidedness are rare even in the most healthy or the greatest men. Feeling, passion, and particularly attention, which when concentrated eliminates the effects of large tracts of sensory activity from consciousness, limit normal broad irradiations and conductivity within the higher nerve-centres. Thus abnormal and extreme one-sidedness of consciousness is the explanation alike of love and jealousy, and of somnambulism or hypnotic automatism. Impressions made upon the skin and muscles, if restricted to their own immediate reflex effects, and intensified by narrowing down the broad current of consciousness to this nervous arc alone, cause insensibility, stiffness, and cramps. Visual sensations, under corresponding conditions, cause imitative movements, and auditory impressions give rise to vocal reproductions, obedience to commands, dreams, &c. These three forms of reaction correspond to Herr Schneider's three classes of instinct.

The abnormal phenomena in question were hitherto less familiar in

[1] *Die Psychologische Versuche der hypnotischen Erscheinungen*, von G. H. Schneider, Leipzig, 1880, pp. 79.

Germany than in France, England, or the United States, and although science is baffled for the present in its search for exact results, it is of no slight importance that the causes and conditions of these states are now better understood than even by Braid. The phenomena of 'trance' and 'mediumship' are again demonstrated to consist in abnormal nervous states which any tyro can more or less control. Practical methods of treating certain forms of nervous disease are already being modified by these results. Pathological classifications and laboratory themes proposed for physiological investigations of nervous functions are likely to be affected; while psychology receives not only a valuable budget of suggestions and *aperçus*, but is strongly encouraged and confirmed in the fundamental assumption of psychophysics that all the secrets of the soul are somehow or other bound up in those of the nervous system.[1]

G. Stanley Hall.

NOTES ON AN INFANT.

The following notes, based on Mr. Darwin's most interesting and accurate report of the unfolding of the senses, emotions, &c., in one of his own children (Mind VII.), are offered as a small contribution to this interesting subject, on which observations, so constantly at hand, ought to be more often carefully made. They concern the writer's infant son, and extend from the moment of birth through a period of 9 months.

Sucking.—The first thing the child did when left alone a few minutes after birth, was to suck the blanket in which he was wrapped.

When hungry, he would cram his hands into his mouth with varying precision, and suck them hard. This was observed ever since birth, and seemed to be adopted without hesitation as a means for temporarily appeasing hunger.

At 4 days old, he pushed away his mother's breast when satisfied.

The touch of a warm hand did not induce sucking movements.

No practice seemed to be required for directing the hands to the mouth.

Sneezing was always accompanied by violent movements of all the limbs, the thighs being flexed on the abdomen, the forearms bent, and the elbows thrust forward.

The purpose of the flexion of the thighs on the belly was probably partly to relieve the tension of the suddenly contracted abdominal muscles, but the movements of the arms (and partly those of the legs

[1] For two interesting popular sketches see R. Gscheidlen, "Die Erscheinungen des sogenannten thierischen Magnetismus im Lichte der Naturwissenschaft," in *Augsburger Allgemeine Zeitung*, Nos. 3, 4, and 5, 1880. Also R. Rühlmann, "Die Experimente mit dem sogenannten thierischen Magnetismus," in *Gartenlaube*, Nos. 8 and 9, 1880.

also) probably had for their cause the necessity for relief of what is called a 'nervous discharge' of great amplitude, such as a sneeze.

Crying was performed at first without any squaring of the mouth. The sound can be exactly expressed by "ngä" as pronounced in German. This must have been produced by closing the fauces by the contact of the pillars of the fauces and the soft palate, so as to send all the sound through the nose; the vowel sound being then produced by separating the soft palate and pillars of the fauces and allowing the sound to come through the mouth.

The child appeared to cry at first for three reasons: (1) from a feeling of loneliness or fright on awakening from sleep, which was relieved by being taken in the mother's or nurse's arms, or even by a touch; (2) from hunger; (3) from pain. The cries seemed to be all different in character.

Smiling was reported at 5½ weeks, but not certainly observed before the end of the 8th week. It was often accompanied by sucking movements. This shows the association of two pleasurable ideas.

Weeping.—Tears were shed two days before the end of the 14th week.

Seeing.—The eyes were first fixed on a candle when a week old. On the same day, the eyes were fixed on one of the parents for the first time.

Opening of the eyes was accompanied by wrinkling of the skin of the forehead; the wrinkles, being horizontal, were due to the frontalis muscle. They resembled those produced in adults during an effort to open the eyes when tightly closed, either on account of very dazzling light or of a foreign body in the eye; but were probably only necessitated by redundancy of skin, which is very observable in a young child and most young animals. This wrinkling gradually ceased.

The 9th day was the first on which anything like habitual opening of the eyes occurred.

It was not before the 14th day that the child *took notice* of persons or moving objects.

From the time that he began to use his eyes, bright light gave him much pleasure, and he never blinked except on a change from comparative darkness to bright light; when the moment of this change was past, he would gaze for a long time with much apparent delight and with wide-open eyes at a lamp or at the gas, however bright. This fact makes it unlikely that the frowning mentioned above was due to being dazzled. He was first able to see himself in the glass at 8 weeks old, the experiment having been often used before.

Hearing.—During the first week the child would not start at any noise however sudden, when unaccompanied by vibration of the room or bed. For instance, no notice was taken of hands loudly clapped close to his ear; but slamming of a door made him start. Just the same starting was observed immediately after birth when the scale in which he was being weighed went down with a jerk.

It was very difficult to decide when the child really heard first. At 14 days old he would turn his eyes to his mother when she spoke to him, but even then did not start at sudden noises however loud, unless accompanied by jerks or vibrations; so that the apparent power of hearing his mother's voice may have depended on his feeling her breath on his face, for it was only when her face was turned towards him while she spoke that he turned his eyes towards her.

In connexion with the late appearance of this sense, we must remember that the tympanum at birth is packed with areolar tissue which only gradually becomes absorbed after birth.

Reflex Actions.—Among these may be noticed the spasmodic start which occurred on any jar or vibration, previously noticed, and also the fact that micturition was always or nearly always indicated by a slight shiver.

The slight provocation necessary for producing a convulsion in children is a well-known sign of their great irritability to nervous stimuli.

Exactly at 4 weeks old the child started at sudden noises if unexpected, but would not start twice at the same noise if not excessively loud.

Taste.—The child rejected all things given to him cold, even milk, but would take various things not especially nice (such as cod liver oil) if warm. The temperature seemed to be of more consequence to him than the taste.

Voluntary Movements.—The arms were far more purposive in their movements than the legs from the very first. The movements of the arms from the first were like those of striking with the fists, the fists, however, being only partially clenched.

Walking.—When one day less than 19 weeks old, the trial was made of supporting the child on the floor with the feet just touching the ground, and moving him forward. The movements of the legs were always alternate and purposive, each step being perfectly formed; though the feet were lifted unnecessarily high, there was no hesitation nor irregularity. Only when he was lifted too high for one or other foot to touch the ground was this alternate movement interrupted, the foot which failed to reach the ground making a fresh step. It was obvious that the contact of one foot with the ground was the stimulus for moving forward the other foot.

Attempts at Talking.—From 9 months the child distinctly imitated the intonation of the voice when any word or sentence was repeated in the same way several times.

About the 13th week he began to appear to attempt to join in conversation with a variety of articulate sounds, if talking was going on in the room.

Fear.—The first symptom of fear was noticed at about 9 months. It was excited by an unusual sound in the room, but not in the child's immediate neighbourhood; he opened his eyes very wide and burst out crying. The second occasion was at about 10 months, when sound was again the exciting cause; a toy was given him which squeaked on pressure, he burst out crying, and cried whenever it was

offered him, but in a short time he got used to it, became very fond of it, and made it squeak himself.

I have one or two remarks to make on Mr. Darwin's paper. He says: "On the 7th day I touched the naked sole of his foot with a bit of paper and he jerked it away, curling at the same time his toes, like a much older child when tickled". Such reflex movements can be provoked *in utero*, and can be utilised in obstetric operations for distinguishing a hand from a foot, the hand closing on the finger. Kicks can be excited even through the abdominal walls by sudden movements, and by direct contact in the way of tickling.

With regard to the words "mum" used by Mr. Darwin's child, and "ham" used by M. Taine's to express food, I would suggest that both were invented subsequently to the use of solid food, for Mr. Darwin's infant invented "mum" at 12 months, and M. Taine's invented "ham" at 14 months. Both words seem to be the result of a vowel sound during mastication. Let any one try to eat or move his mouth as in eating, pronouncing at the same time any vowel sound. He will find that each vowel is closed by the letter "m" which is common to "mum" and "ham". "Mum" is the result of "u" with the mouth first shut, then opened, then shut. "Ham" (probably without the "h" aspirated, especially as an aspirated "h" is too much for the recti abdominis muscles of an infant) is the result of an "a" similarly treated.

That "m" is one of the earliest acquired consonants, appears from the word "mama".

I would also suggest that the word "mumble," used of a dog growling while gnawing a bone, is probably onomatopoetic, and to be similarly explained. I do not know the etymology of the Latin word "mando".

F. H. Champneys.

FREE-WILL: A REJOINDER TO DR. WARD.

I. My article, *Dr. Ward on Free-will*, in April last, Mind XVIII., has elicited an elaborate reply from Dr. Ward in the *Dublin Review* for October; in which, as might be expected, he does three things, controverts my objections, re-states his own theory, and criticises what he supposes to be mine. My answer must necessarily be brief. The plan of Mind does not admit the voluminous repetitions which are apparently but so many "congenial efforts" to the Scholastic periodical, and serve, for aught we know, like mesmeric passes to deepen the "dogmatic slumber" of the regular patients.

This being so, since I cannot go through his reply in all its detail, I must have recourse to selecting the most fundamental points, trusting that my replies on these will be sufficiently conclusive to show by implication the untenability of his positions as to the rest. I begin with the general remark that, whereas Dr. Ward frequently taxes me, wrongly as I think, with misconception of his meaning, he very frequently and palpably misconceives mine. There is one page in particular, near the beginning of his

article, where he comes to what he calls "the critical issue" between us, p. 274, which is full of misconceptions. I am there represented as saying in effect, that the "spontaneous impulse" is the outcome of the entire circumstances external and internal of the moment. But I never say this or anything like it; I do not admit the analysis into "spontaneous impulse" and "anti-impulsive effort" at all. I argue at some length (MIND XVIII., pp. 234-235) that it is an arbitrary and unfounded assumption. But to this argument Dr. Ward has given not a single word of reply. It is not I, then, who identify the "spontaneous impulse" with the total of circumstances, as Dr. Ward represents me. I hold indeed that the act of choice is the outcome of that total, but I include in the total, not indeed Dr. Ward's "spontaneous impulse" and "anti-impulsive effort," but the *facts* which *he* distributes, and not I, under those two heads. He groundlessly supposes that I identify what *he* calls the "spontaneous impulse" with the total circumstances, external and internal, of the agent at the moment of choice; whereas my total of circumstances includes the motives or reasons for what he calls "anti-impulsive effort" as well. If he will look again at those three passages of my article which he refers to at p. 274, he will see that there is not a word about "spontaneous impulse" in them. Consequently the contradiction in terms, with which he endeavours to saddle me at p. 282, does not attach to my argument. I shall presently show that it really attaches to his own theory.

Secondly, I will take his reply to my examination of two of his instances, the tooth-brushing case, and the Christian military officer case, at pp. 283 and 284. His reply is founded on a similar mistake to that just signalised, and consists in asserting that my version of those cases *omits* the "anti-impulsive effort," on which he relied for disproving determinism, describes them as cases of merely "congenial effort," and represents them falsely in consequence as compatible with determinism. "We alleged phenomenon A as disproving Determinism; and Mr. Hodgson replies that phenomenon B does *not* disprove Determinism" (p. 283). But my argument really is, that the *facts* of these cases are explicable without recourse to the arbitrary distinction between "spontaneous impulse" and "anti-impulsive effort". I showed (MIND XVIII., pp. 235-6) that the motives of so-called spontaneous impulse and the motives of so-called anti-impulsive effort are alike *in the point which is relevant to the nature of their connexion with the act of choice*, however much they may differ in other respects; that they are alike in being determinants of choice. I deny that the motives and the actions induced by them can be put into two antagonistic classes *for the purpose of explaining the process of volition;* but I do not deny the existence of the motives and actions in question. This Dr. Ward calls omitting the *fact* of "anti-impulsive effort," and inserting only the fact of "spontaneous impulse" and "congenial effort" founded on it. He *tacks*, to use a parliamentary phrase, his distribution of the facts to the facts themselves; so that, with him, to deny the distribution is to deny the facts. And thus he represents me here and elsewhere (pp. 274, 275, 294), as agreeing with him as to the distribution of the facts, and differing as to the fact of their occurrence. The truth is the very reverse. I agree with him entirely as to the facts alone, and as to the possibility of their occurrence; I differ as to their distribution and interpretation.

Dr. Ward well knows that his distribution of the facts under these two heads, and not the occurrence of the facts alone apart from that distribution, is the crucial and critical point for his theory. Hence his extreme anxiety to have it admitted, that his opponents agree with him on the question of distribution, and differ on the question of fact. Hence also his anxiety to show that the distribution is an ultimate and immediate fact of conscious-

ness. He alleges that its truth is obvious to all intelligent persons who are not puzzle-headed (p. 277). Also that it is immediately and "clamorously" testified by consciousness, along with the "Ego" itself, which makes the anti-impulsive effort (pp. 292, 293). The "Ego," and its making anti-impulsive effort, and the character of that effort as "anti-impulsive," are in Dr. Ward's eyes three facts in one, given immediately and indivisibly in consciousness; just as in old times the sight of the sunrise was thought to testify immediately to the fact that the sun moved and not the earth. Now I shall not repeat my argument on these points. I shall content myself with turning the tables on Dr. Ward, with respect to that contradiction with which he endeavours to saddle me.

Let it be granted *argumenti gratiâ* that I have an immediate consciousness that *I* exist, that *I* exert anti-impulsive effort, that the effort *is* anti-impulsive. Now I say, if I have such a power, surely it lies in my nature to have it. How can *I* have a power of resisting impulse without that power belonging to *me*, founded either in my nature alone or in my nature under its actual circumstances? Yet Dr. Ward expressly maintains that the power of anti-impulsive effort is independent of my *nature* (p. 270), and independent of my mental constitution as well as external circumstances (p. 299). I quote these passages for the sake of definiteness; but that this is his position is clear from every line of the article. Dr. Ward maintains that *we* have a power which is independent of *our nature*. What can he mean? What is an "Ego" which is independent of its own nature?

But the contradiction just signalised is not merely to be drawn by construction from Dr. Ward's supposed intuition of the Ego. It is apparent from his own statement of the case against determinism, in which (p. 281) he himself does what he charges me with doing, namely, identifies the act to which the agent is disposed by the entire circumstances external and internal, at the moment of choice, with the act which is in accordance with his "spontaneous impulse". He then alleges that the agent sometimes performs a *different* act from this; and that thereby determinism is disproved. "If, then, I act at any moment *otherwise* than according to such impulse—I act in some way *different* from that to which my entire circumstances of the moment dispose me" (p. 281). I therefore retort upon Dr. Ward the very words which he seeks to apply to me: "If you mean anything, it must be, (1) that my whole assemblage of existent circumstances (external and internal), by their combined influence, dispose me to one stable, definite course; and (2) that at the same moment they do *not*, by their combined influence, dispose me to that course, but to some other. A contradiction in terms" (p. 282).

I am disposed to agree heartily with Dr. Ward when he says, at the beginning of this same paragraph (p. 282), "It is a *contradiction in terms* to say that my entire circumstances of the moment can possibly dispose me to anti-impulsive effort." For the entire circumstances of the moment include the agent himself and all his powers. If they cannot dispose to "anti-impulsive effort," then "anti-impulsive effort" is a vain imagination, which is just my opinion.

But still further, the "anti-impulsive effort," according to Dr. Ward, is induced by reasons or motives of three distinct kinds, (1) virtue or duty to God, (2) permanent self-interest in this world, (3) permanent self-interest in another world (pp. 285, 287). Now it is only as part either of the agent's nature, or of his internal or external circumstances, that these or any other reasons can induce or justify his action, or stand in any relation to it. Whatever may be meant by anti-impulsive effort, then, it is clear that it cannot be independent of the agent's nature and circumstances, of what is otherwise described as his entire circumstances external and internal.

But the character of the anti-impulsive effort is a point on which Dr. Ward specially charges me with having entirely failed to apprehend his meaning. He says, "On many various occasions—such is our contention—it is matter of direct and unmistakable *observation*, that this or that act is an act of anti-impulsive and *not* of congenial effort. He [Mr. Hodgson] argues, as though we accounted this quality of the act to be a mere matter of *inference;* and he contends that our inference is not conclusively established" (p. 285). Nothing can be a greater misconception than this charge of misconception on me. I really argue, not as Dr. Ward represents, but as though he *accounted* it matter of experience and *refused* to account it matter of inference; and then proceed to argue that he is wrong in doing so. These are my words: "Dr. Ward claims to have an immediate knowledge of the agent, or soul, *per se*, in cases of conscious anti-impulsive effort, and claims it as an essential part of the facts of which anti-impulsive effort consists. But the existence of *this* knowledge requires proof, &c." (MIND XVIII., pp. 232-3). And referring to this afterwards, "Dr. Ward's reply must be, as shown above, that we have an immediate intuition of the soul *per se*, in the very moment of conflict. And to this I now make the further reply, &c." (*ibid.*, p. 240). How then can Dr. Ward say, that I argue "as though *we accounted*" this quality of the act a mere matter of inference?

Dr. Ward's article offers many other tempting openings for reply, but I confine myself to the strictly necessary. One more objection only I will advert to, an incidental one, quoted by him from a critic in the *Spectator*, *à propos* of his instance of the Christian military officer. "How in the world," says the critic, "can a desire derive strength from its fixity? We can barely imagine a desire deriving fixity from its strength, but certainly not strength from its fixity. Let a desire be ever so permanent, yet if it be but faint it will be overcome by a stronger desire." The officer in Dr. Ward's instance had "a firm resolve, by God's grace, to comport himself Christianly". And I argued that this "resolve" involved a desire (say to live according to the Divine law) which derived its strength from its fixity in his mind. I think it is not difficult to see how it would help to combat the vivid desire of revenge. It would poison its sweetness by constantly suggesting its incompatibility with peace of mind, so that, as often as the idea of revenge occurred, there would arise *amari aliquid* with it. And it would also call up by association a host of habitual ideas, all antagonistic to the indulgence. It is true that we must consider the relative strength of desires as they are at given moments, and in the present case at *any* moment when the desire of revenge may be supposed to rise into consciousness in conflict with the resolve to obey the Christian law. But it is not requisite to suppose the resolve victorious at *all* such moments; it is enough for Dr. Ward's purpose if it is victorious at any one of them. And my argument is that, when it is victorious, its strength is owing in great measure to its being based upon fixed or habitual desires, or ideas including desires; which would hold good notwithstanding that the resolve itself may (as Dr. Ward now urges, p. 284) have been adopted immediately before. The *Spectator's* argument seems also to imply, that the vividness of desires is the only element to be considered in trying to estimate the relative quantities of pleasure which they may be supposed to contain. But the recollection that a pleasure is a deliberately chosen and approved one, which is to be reckoned to its "fixity," is surely a distinct and additional element of pleasure in it.

II. I turn now to another branch of the subject. Dr. Ward concludes his article with some criticisms on what he supposes to be my theory of free-will. But he has naturally a very imperfect idea of what my theory is. He classifies me roundly and without qualification (p. 298) as a Hedonistic Determinist, which I think any one who had weighed the Chapter

entitled "The Logic of Ethic" in my *Theory of Practice*, Vol. II., ch. ii., and especially § 83, would hesitate to do. Even such indications as my article in MIND afforded he does not appear to have made much use of. Judging from the words which he puts into my mouth at p. 300, he thinks that I may be compelled to content myself with a merely nominal and illusive freedom, a *sense* of freedom without the reality of it; that the reality of it is incompatible with my form of determinism. He has paid no attention to the words in which I distinguish his view of freedom from my own, where I say that I do not, as he does, "oppose liberty antithetically to necessity" (MIND XVIII., p. 228). The meaning of this must now be briefly drawn out.

I decline to oppose liberty antithetically to necessity, because they are things belonging to two different orders of ideas. Necessity belongs to the logical, and liberty to the causative or in better phrase the efficient order. Necessity when said of things or events means a certain *character* attaching to them, namely, that of uniformity or inviolability in their arrangement, in their sequences and co-existences, and is opposed not to liberty but to *contingency*. The order of efficiency, or (as we may also call it) causation or conditioning, is the actual realising of this order. If we speak of necessity as being found in *this* order, we have or ought to have a quite different idea in our minds from that of uniformity, namely, the idea of *compulsion*. The term *necessity* is an ambiguous one. Applied to the logical order of things it means uniformity, applied to the efficient order of things it means compulsion. *Freedom* also is similarly ambiguous. It is opposed to necessity in both its senses. Opposed to necessity in its sense of uniformity, it means contingency, hap-hazard, lawlessness. Opposed to necessity in its sense of compulsion, it has no synonym but itself. The true and proper meaning of freedom is freedom as opposed to compulsion. And the true and proper meaning of necessity is necessity as opposed to contingency. Thus, freedom being opposed to compulsion, and necessity to contingency, there is no antithetical opposition between freedom and necessity.

This distinction between the two orders, the logical and the efficient, with the distribution of necessity to the former and freedom to the latter, is an indispensable preliminary to comprehending the free-will controversy. Determinism is a doctrine based upon the logical order and applied to the efficient. Determinism maintains the uniformity of nature, necessity as opposed to contingency, but says nothing whatever about compulsion or non-compulsion of agents in the efficient order. A determinist is perfectly at liberty to maintain the freedom of the will. No logical objection can be made to him merely on the score of his determinism. The question of freedom has nothing to do either with necessity in the sense of uniformity, or with its opposite, contingency; it is a question of compulsion or non-compulsion; and for my part I cannot avoid attributing freedom to every existing thing, in such a way as to be a co-element with compulsion in the actions that take place between the thing and its environment. But I hope to have an opportunity before long, in another connexion, of returning to this more abstruse part of the free-will question.

Now I venture to repeat, in spite of Dr. Ward's "emphatic" denial (p. 299), that the meaning I attach to the term free-will is the meaning attached to it by mankind at large. By freedom, whether of the will or anything else, men at large mean freedom from compulsion. What know they or care they about uniformity of nature, or predestination, or reign of law? They *feel* their freedom: no fact can be more certain to them; they have an immediate *sense* of it. And note what this implies; it implies that freedom is to them a fact and *not a theory*. If freedom as opposed to necessity was what they immediately felt, and meant by the term *freedom*, they

would have an immediate *sense* of a *theory*. Freedom from compulsion can be immediately felt; but freedom as opposed to necessity must first be thought. Observe too, how inevitably the language we use in describing human choice and action implies the universal presence of law, as where in the *Prayer-Book* freedom is identified with the service of God, "whose *service* is *perfect freedom*". Observe too, how frequently compulsion is implied when we speak of the absence of freedom, as when we say that a man is the slave of his passions. Freedom from one law involves subjection to another law, so that we are never free from law, but often from compulsion.

It is when people begin to theorise that they begin to substitute a freedom which must first be thought for a freedom which is immediately felt. They vainly imagine that the freedom which must first be thought is the only *real* freedom, and that the felt freedom is delusive. The task which they ought to propose to themselves, on the other hand, is *also* to think the felt freedom; to explain it without substituting a thought freedom for it. Nothing is easier, nothing is more common, and few things are more pernicious, than to explain a thought which you have first introduced, and call it explaining a fact.

People then get puzzled, when they begin to theorise, with the double senses of necessity and freedom. I feel I have the power of choice between A and B, they say, and yet how is it that from all eternity it has been decided which I shall choose; has been decided before I was born, consequently not by me but for me? The distinction of the two orders is the only key to this difficulty. In the foregoing sentence, having the *power of choice*, being *decided by me*, and *decided for me*, are ideas belonging to the efficient order. *Decided from all eternity* is an idea belonging to the logical order. It says nothing about either *by me* or *for me*. It means that the Omniscient knows whether *I* shall choose A or B. It is not decided *efficiently* until I actually make the choice. Until that moment the conditions, antecedent and co-existent, are not in combination. The efficiency is in me, the knowledge in him. But whether that efficiency is *compulsory* on me or not,—of this nothing whatever is said by the words *decided from all eternity*. It depends on how the *me* is defined, what is included in it, and what are its relations to its environment.

Thus it is that the ordinary man gets into confusion on the subject of free-will, the moment he begins to theorise about it, and for no other reason than for want of distinguishing between the two orders to which freedom and necessity respectively belong. This is the same confusion in which Dr. Ward is entangled; and so completely that sometimes he seems to hold a perfectly causeless freedom or liberty of indifference, at other times, as I remarked in my former article, he speaks the language of determinism, particularly when he emphasises the reasonableness of anti-impulsive action. For the confusion is one which it is hopeless to remedy by the Scholastic means, by supposing a soul-entity endowed with a power of free action, an agent invented *ad hoc*. The difficulty is not where to find a free agent, but to show *what* free action is, and *how* it is possible. What is free action, we ask; and are told it is the action of a being expressly endowed with a power of acting freely. Singular infatuation!

It harmonises with this view of the matter, to find Dr. Ward putting forward as a statement which on my principles I must reject, that "when I successfully resist my will's spontaneous impulse, I do so by my own intrinsic strength and personal exertion" (p. 290). Substituting the words *strong lower desire* for *spontaneous impulse*, in order that Dr. Ward may not again suppose me to grant the correctness of his nomenclature,—so far from seeing anything in this to reject, I see nothing but what I earnestly maintain. The question is not whether this is done by the *agent* or not, but

what the *analysis* of his doing so is. The analysis of the resistance not the fact of it determines whether Dr. Ward's view of freedom or mine is true. And I remember a similar use made of the expression "a dead heave," I think by the same critic in the *Spectator* from whom Dr. Ward quoted the objection noticed above; as if the fact of a "dead heave" being made against some powerful temptation proved of itself the truth of Dr. Ward's analysis of it. Granted the "dead heave" is made and that *we* make it,—what is the *we*, and *how* do we make it? When will empiricists see that the really important questions in philosophy are analytical ones?

Dr. Ward imagines that I stand quite alone among determinists in my use of the word *freedom* (p. 299), and almost alone among contemporary determinists in writing as a Theist (p. 298). Also that, as to a moral government of the world and similar questions, "very few non-Calvinistic Determinists will be found" on my side (p. 300). He seems to have difficulty in realising that Scholastic empiricism has opponents who stand on ground very different from materialistic empiricism, or that the Scholastic doctrine of free-will can possibly be rejected, unless by those who deny free-will itself. As to my own isolation, I rejoice to think that he is entirely mistaken. Leibniz who, so far as I know, was the first to propound the doctrine of Determinism, strictly so-called, certainly held free-will as part and parcel of it, and precisely in the sense that I do. He based determinism on the principle of "Ratio Sufficiens," and opposed it to the opposite errors of the liberty of indifference on one side, and compulsion on the other. Dr. Ward must certainly have read his *De Libertate*. It occupies less than a page in Erdmann's edition, p. 669. "Libertas indifferentiæ est impossibilis. Adeo ut ne in Deum quidem cadat, nam determinatus ille est ad optimum efficiendum, et creatura semper ex rationibus internis externisque determinatur." And again: "Deus cum sit perfectissimus adeoque liberrimus, determinatur ex se solo. Nos vero, quo magis cum ratione agimus eo magis ex nostræ naturæ perfectionibus determinamur, hoc est liberi sumus."

My theory is identical with that of Leibniz both in its practical outcome, the conception of liberty, and in the essentials of its logical basis. But I introduce a further distinction, for the sake as I hope of greater clearness, that of the logical and efficient orders. And what I mean by the logical order, in this place, is that list of final modal categories, arrived at in my *Philosophy of Reflection*, Vol. I., p. 421, The Actual, The Conditionally-necessary, and The Necessary; which are the specially philosophical categories, to which every thing that exists must ultimately be referred. Leibniz's necessity and contingency belong to this order; his liberty, spontaneity, and compulsion, belong to the efficient order. The contingency of which Leibniz speaks is purely logical not *real;* he denies *real* contingency altogether, calling it the *indifferens*. He has no *real* indetermination. But a real indetermination is indispensable as the basis of that kind of liberty which Dr. Ward maintains, and which I cannot in any way distinguish from what Leibniz calls *liberty of indifference*.

The first strictly determinist theory, therefore, was a free-will theory, a free-will and not a compulsory determinism. Leibniz held both the uniformity of the course of nature, under the name of the principle of *Ratio Sufficiens*, and also the doctrine of free-will. This also is how he was understood by one of his most illustrious disciples, Moses Mendelssohn, of whose words I will avail myself to express what I have yet to say on the subject, by quoting two short passages which put this whole question in the clearest light:

"Predestination appears to some incompatible with self-determination, as if no freely-choosing being could act according to his good pleasure if it

were decided beforehand that he will act in this particular way and no other. But as I see the matter, this is a dull thought, a plain absurdity. Predestination is perfectly compatible with self-determination ; it in no wise hinders the action of the chooser, because the activity of choice has its ground in the idea of the purposed end and in nothing else ; because *predestination* is not *the cause* of the willing, and *changes nothing* therein, but merely *agrees* with it. True, nothing takes place in the will which is not decided in the predestination ; but the idea and value of the purposed end, and not the predestination, are the ground of the will ; these alone give the preponderance to pleasure or displeasure, to desire or aversion." *(Ueber die Seele*, in *Sämmtl. Werke*, Wien, 1838, p. 362.)

The second passage is from a Dialogue, in which one of the persons asks, speaking of Spinoza, " But what could have led him to deny freedom to the Deity ?" To which the other, who represents Mendelssohn, replies :

" Innocently here if anywhere he fell into error. He regarded the *indifferentia æquilibrii* as the only real freedom, an error which he shares with innumerable orthodox philosophers. But he had the acumen to perceive, that the choice of an intelligent being is always determined by motives ; regarding that indifference therefore as impossible, he denied freedom to all intelligent beings. Leibniz has happily exploded this error, and irrefragably proved that true freedom consists in choice of the best ; and that, while motives determine the will and exclude hap-hazard, they can never set up a necessity. But only think of human perversity ! That Leibniz should have passed well nigh for a Spinozist, for developing this idea !" *(Gespräche*, in *Werke*, as above, p. 487.)

It is plain, then, to send one parting shot into Dr. Ward's ample target, that no Leibnizian or Free-will determinist can possibly use the language which Dr. Ward, by a palpable (though I need hardly say unintentional) misrepresentation, puts into the mouth of his kind-hearted sophist, who is made to say (p. 302), in consoling a friend writhing under the torture of a just remorse, that his self-indulgent conduct was infallibly and inevitably determined *for him*, by his circumstances external and internal. No ! *By him* as well as *for him* must be his language. And according to the proportion which the *by* bears to the *for* (other things being equal) will be the keenness and pressure of his remorse. No man can plead, because no man can feel, that he and his nature are two.

SHADWORTH H. HODGSON.

ON THE DEFINITION OF INSTINCTIVE ACTION.

One of the questions in Psychology set at the last Second B.A. Examination of the London University was the following : " Give the popular meanings of the term Instinctive Action, and assign it a precise scientific connotation ". I was much struck in reading nearly two hundred answers to this question by the want of any common conception of what is included under the term. Thus some answers identified it with reflex action, others with habitual action, others again with the apparently unmotived ' instincts ' of the lower animals. Some said the differentia was the absence of conscious volition, others that it lay rather in the peculiar origin of the actions as antecedent to individual experience. Those who know most about the present condition of psychology are aware that one of its pressing wants is a set of

well-understood clearly defined terms. It may not be amiss then to try to render the meaning of this term more precise.

I would submit that there are good reasons for taking the term *instinctive* to refer to the origin or history rather than to the present nature of the action. The absence of conscious purpose is not a mark of instinctive origin, but this last *is* a mark of the former characteristic, and must therefore be viewed as the more fundamental. Where we desire to express the nature of an action as devoid of clear conscious purpose, the expression *automatic* suffices. At the same time it is plainly necessary to mark off actions known as instinctive from reflex actions which have a similar origin, since the former differ from the latter in the important respect of being accompanied by consciousness, though not conscious purpose. Reflex and Instinctive movements would thus form two species of the genus Primitive or Inherited actions. This distinction, I may observe, is in no way opposed to Mr. Spencer's interesting mode of connecting instinctive with reflex actions, since it makes no assumptions respecting the ultimate origin of these actions.

Having now circumscribed our subject-matter and determined the point of view for observing it, let us proceed with our tentative definition. What marks off instinctive action is priority to (individual) experience and acquisition. We may thus define it after the manner of Prof. Bain as 'untaught ability'. But a moment's consideration will show us that what is meant by instinct contains more than a substitute for acquired knowledge how to do a thing: it includes as well an equivalent for a purpose or volition to do something based on a memory of past satisfactions. Just as the term habit means both absence of conscious purpose and absence of conscious cognition of means, so the term instinct points to both factors. In other words, instinctive action is antecedent to individual experience in a double sense: it is not only an unlearnt action, but an unmotived one. I should therefore include in the definition the fact of the action being not purposive, though imitating such a voluntary action in being beneficial to the agent. From the point of view of the evolutionist both these aspects of instinct might be connected by means of a biological principle, such as that an organ which has performed a certain kind of function retains a *disposition* to go on working in that particular way.

Our definition would include the familiar animal instincts and also certain human actions or germs of action. Thus the impulse to move the lower limbs alternately (which one can observe in a child of two months by letting it gently touch one's lap with one foot) is the instinctive element in walking. On the other hand, spontaneous random actions, supposing such to exist, would, in opposition to Prof. Bain's view, be excluded from instinctive actions, and this not because they are *spontaneous*—for I have intentionally left open the question whether instinctive actions properly so called require an external stimulus or may not in some cases be wholly due to the force of an internal impulse working strongly at the moment—but because they are *random*. So far as a movement is the mere overflow of stored-up nervous energy, and has

no definite quasi-purposive character, it is best regarded as a mechanical result of present conditions merely. It is only when the apparently spontaneous movement manifestly takes the direction of some organised disposition that it betrays the instinctive character. Thus it is quite easy to distinguish, in the movements of the arms of a child of two months old, vague spasmodic movements 'knowing no law,' and others which approximate to the direction of one of the most deeply organised varieties of muscular action, namely, the raising of the hand to the mouth. I should call the latter, in so far as they are independent of individual experience, instinctive, but not the former. Of course, it is not easy to draw the line between certain kinds of instinctive and random movements, especially as it may be contended that the latter must in every case correspond to some of the habitual actions of the race. Yet I think that the distinction is worth preserving.

I may just add that instinctive actions need not show themselves at the very beginning of life. To adopt a distinction of German physiologists we may speak of them as inherited, though not necessarily innate.

With respect to feeling and its expression and to intellectual actions (perceptions, &c.), the term instinctive if retained should, I think, similarly point to origin and not to present nature.

JAMES SULLY.

THE DOCTRINE OF MIND-STUFF.

Mr. F. W. Frankland (now of the Registrar-General's Office, Wellington, New Zealand) has recently read before the Wellington Philosophical Society a paper "On the Doctrine of Mind-stuff," in which, besides claiming that it was arrived at by himself and other persons as far back as 1870 independently of the late Professor Clifford, and giving a short exposition of it in accordance with part of Clifford's article in MIND IX., "On the Nature of Things-in-themselves," he thus attempts to carry out the doctrine farther :—

"In what relation does the doctrine of Omnisentiency or Mind-Stuff stand to the various theories which have been propounded for explaining, on the principles of rational mechanics, the phenomena of the physical universe? In what relation does it stand to the theories of atoms, ether, ultramundane corpuscles, ring-vortices, and the like? Now, in the first place, it does not either exclude or supersede them. There is nothing in the doctrine of Mind-Stuff incompatible with any of these mechanical theories. The theories in question are one and all of them statements of quantitative relations among possibilities of feeling, and are not in any way concerned with the noumenal realities on which these possibilities depend. The universe of matter is a complex of possibilities of feeling, and these possibilities are found to stand in certain quantitative relations to one another. These relations are of two orders,—relations of sequence and relations of co-existence. The former are believed to depend, without exception, on causal relations—relations spoken of as the *laws of nature;*—the latter are space-relations, and may be described as *facts of structure.*

All the mechanical theories I have alluded to, therefore, and indeed all mechanical theories that can be framed, are affirmations either of mechanical laws or facts of structure, or both. Setting out from the relations of sequence and facts of structure which we *observe* to exist among the possibilities of sensation which constitute the material world, the physical investigator does one of two things. He either infers, by a complete induction, the existence of such and such causal relations, and then deduces facts of structure which are not capable of being observed ; or, he *assumes* the existence of certain facts of structure, and perhaps also of certain causal relations, and shows that by *known* causal relations these will lead to the observed facts of structure. In the former case, his process is one of scientific demonstration, in the latter he constructs a scientific hypothesis. To the former category belongs the reasoning by which we infer that matter consists of molecules (in other words, that its structure is discontinuous), and that there is an ether ; to the latter, belong such hypotheses as those of ring-vortices and ultra-mundane corpuscles. But now, observe, we are throughout dealing with quantitative relations among abstract possibilities. The whole of mechanical science deals with such relations. It is in no way concerned with the inner qualitative nature of the real existences on which these possibilities depend. These real existences are aggregations of Mind-Stuff. Psychology is the only science which deals with them ; and even that deals only with the most complex of them. Therefore the Doctrine of Mind-Stuff can in no way supersede the necessity of, still less can it exclude, these mechanical explanations of the universe.

"But although the principles of rational mechanics, and the hypotheses by which, in conjunction with the former, it is sought to explain the observed phenomena and structure of the material world, are in no way in conflict with our doctrine, we shall presently see that they may come to have a very important bearing on the determination of the particular form which that doctrine ought to assume. For the doctrine asserts that the possibilities of sensation which constitute a material object, correspond to, and depend for their existence on, some reality outside us or 'eject' of which Mind-Stuff units are the elementary constituents. Hence every conception of mechanical science must denote what would be called in mathematics some *function* of Mind-Stuff. Matter, defined as that which has mass or inertia, must be a function of Mind-Stuff. Motion, force, and energy, must be functions of Mind-Stuff. The interesting question then suggests itself: *What* functions, severally, are mass, momentum, energy, &c., of the noumenal reality which we have designated Mind-Stuff? This question has been touched upon in a profound passage of the late Professor Clifford's review of a work entitled *The Unseen Universe.* Professor Clifford there indicates that the answer to the question, if it *can* be answered, must depend on the knowledge we can gain respecting Mind-Stuff itself—knowledge which can only be acquired within the domain of psychology. Our feelings, he points out, have certain relations of contiguity or nextness in space, exemplified by contiguous elements of a visual image, and certain relations of sequence in time, exemplified by all feelings whatever. 'Out of these two relations the future theorist must build up the world as best he may. Two things may, perhaps, help him: there are several lines of mathematical thought which seem to indicate that distance and quantity may come to be expressed in terms of position, in the wide sense of an *analysis situs*, while the theory of the curvature of space hints at a possibility that matter and motion may be expressed in terms of extension only.'[1]

[1] "I take this to mean, that if we admit as a possibility that the properties of

"Now it is my ambition to follow out the line of thought here indicated. It would be impossible to do so fully within the limits of a single paper, but a beginning may be made. In the first place I desire to supply what I conceive to be a serious omission in Professor Clifford's enumeration of the data respecting Mind-Stuff which the 'future theorist' has at his disposal. Feelings not only have relations of contiguity or nextness in space, and of sequence in time, but they also have two other quantitative aspects of very great importance, namely *degrees of intensity* and *differences of volume*. We are conscious that sensations differ in intensity; thus an acute pain is felt to be a more intense sensation than a faint smell. Also, we are conscious that sensations of about equal intensity differ in something we call *volume* or *massiveness:* thus a sensation of general weariness, though perhaps felt to be of about equal intensity with a particular ache, is distinguished (apart from its *qualitative* difference) as possessing greater mass or volume. Lastly, we know that there exist *causal relations* among our feelings. Thus the group of ideas[1] characterised as the realisation of a danger is followed by the emotion of terror, and the constancy of the sequence indicates that we have here to deal with a causal relation. Hence the data we possess are these:—a complex of feelings perpetually undergoing transformations, causal relations between successive feelings, relations of contiguity or nextness among a few of the synchronous ones (though this appears to be an exceptional phase of psychic structure, only to be found, as far as I am aware, among simultaneous visual impressions which co-exist in a space or manifoldness of two dimensions), qualitative resemblances and differences, variations in intensity, and variations in volume or mass. These are the materials from which we must construct our conception, save as to certain spots necessarily a very dim one, of the noumenal world. And these are the materials which we must connect, in the best way we can, with the elementary factors of our conception of the world of phenomena. We must endeavour to establish a correspondence between feelings, their causal and topical relations, their intensities and volumes, on the one hand, and the dynamical conceptions of mass, momentum, force, energy, &c., on the other. Now, as a preliminary to the working out of this correspondence it will perhaps be advisable to take a brief survey of the ultimate dynamical conceptions, and of their relations to one another.

"Our first step will show us how thoroughly interdependent all these conceptions are. *Matter* can only be defined as that which possesses *inertia*—as that which requires a *force* proportional to its amount (designated its *mass*) to effect a given change in its *motion* (either a change in velocity, or a change in direction, or both) in a given *time*. *Force*, again, can only be defined as that which causes a change in the velocity or direction of the

space may show a sensible divergence from the Euclidean standard, if we consider very small parts of it—we get at a way of defining matter in terms of the space which it occupies. An ultimate atom of matter (perhaps infinitesimal as compared with the chemical atom) would on that view be merely an infinitesimal crumple in space. All physical science would then be reduced to transcendental geometry, and space-elements would be the analogues of Mind-Stuff units.

"The former parts of Professor Clifford's suggestion can only mean, as far as I can see, that space may be not only not homogeneous in ultimate structure, but not even infinitely divisible. It may consist of indivisible units. In that case there would be such a thing as absolute magnitude, and measuring would be reduced to counting. The space-unit would then be the analogue of the Mind-Stuff unit."

[1] "An idea is merely a combination of derivative feelings which are severally faint copies of more vivid primary feelings. In the present case there is included also an unique element called *belief* alluded to in an earlier portion of this paper."

motion of *matter*. It is tacitly assumed, though not often expressed, that the only thing which can cause such a change in velocity or direction is the co-existence of other matter. This amounts to saying that force is a relation of co-existence between different portions of matter. But every relation of co-existence in the material or phenomenal world is a relation of mutual position in space. Hence force is a relation of mutual position between different portions of matter. *Motion*, in the kinetic, or dynamical, as opposed to the merely kinematical sense, is a change in the position of *matter*, and is completely determined when the mass of the moving body and the kinematical conditions of the case are given. The notion of *energy* does not require the introduction of any fundamentally new conception. Hence the phenomenal world is accurately described if we speak of it as a complex of motions, varying in infinite ways as regards mass on the one hand, and velocity and the other kinematical aspects on the other, tending severally to constancy in all these respects, but having a mutual action on one another, determined by their relations of co-existence, and, therefore, undergoing perpetual transformations. Now mark the parallelism. The noumenal world, we have seen, may be described as a complex of feeling-elements, or Mind-Stuff units, having, just as motion has, extension in Time, varying in infinite ways as regards volume, intensity, and quality or timbre, having a mutual action on one another, determined by their mutual relations of co-existence, and undergoing perpetual transformations. Is this parallelism something more than a parallelism? Without attempting to justify it in this paper, I would hazard the conjecture that motion *is* Mind-Stuff, that volume of feeling *is* mass, and intensity of feeling velocity. Professor Clifford seems to have believed that motion and Mind-Stuff were identical, and indeed to have held the belief in a much more dogmatic form than I should be inclined to do; but the other two identifications are, as far as I am aware, quite new. The degree of light which cerebral physiology may be capable of throwing on the question must be estimated by abler minds than my own: but one implication of my hypothesis has struck me as favourable to it. *If matter in* MOTION be Mind-Stuff, it follows that if matter were ever at absolute rest, it would no longer correspond to any noumenal existence. It would become a pure abstraction—one term of a product, the other term of which was zero. Does not this appear in harmony with the hypothesis of Sir Wm. Thomson, which makes all the atoms of ordinary matter, and all the particles of which the ether is composed, to consist of a rotational motion in an incompressible frictionless fluid? The stoppage of the vortex-motion would be the obliteration of both atoms and ether—the annihilation of the sensible universe. The perfect fluid *at rest* would be, on my view, a mere nullity. No noumenal existence would correspond to it, and it would, in fact, merely represent the potentiality of massiveness among feelings.

"Two other identifications will at once suggest themselves, and may be relied on with greater confidence than any of the three preceding ones: First, the causal relations among elements of feeling will have their counterparts in the causal relations among motions of matter, *i.e.*, they will have their counterparts in the dynamical laws of the universe. And secondly, the relations of synchronism among elements of feeling will have their counterparts in the relations of synchronism among the motions of matter, *i.e.*, they will have their counterparts in the space-relations of the universe. Certain passages in Herbert Spencer's *Principles of Psychology* seem to indicate that he entertains a similar belief.

"And now, one more thing follows. The nexus of causation which obtains among the feeling-elements, or Mind-Stuff units, *i.e.*, among the elements of the noumenal world, must be at least as complex as the corre-

sponding nexus which obtains among the motions of matter, *i.e.*, among the elements of the phenomenal world ; *and it may be indefinitely more so.* For the phenomenal world depends for its existence on the noumenal world, and is in fact only a particular aspect of the latter—that aspect, namely, which the noumenal world presents to its own most complex strands, the percipient beings that grow up in its bosom. Nor can the elements of the phenomenal world derive any complexity from the interaction of the noumenal elements which they represent with the complex structure of the percipients. For it is the especial triumph of the mechanical theory of the universe to have eliminated all these complexities, and referred the affections of the various senses to the same source. Thus the sensations of light and warmth we receive from a fire, are both referred to the radiant energy of the ether which intervenes between the fire and ourselves. Hence we may be certain that the nexus of causation in the noumenal world is at least as complex as the dynamical nexus of the phenomenal world. *But it may be indefinitely more so.* There may be many causal relations in the noumenal world which have no types in the phenomenal world, though we may be certain that every dynamical relation in the phenomenal has its anti-type in the noumenal world. The phenomenal world is a *projection*, so to speak, of the noumenal world on the plane of observation, and much complexity may be lost in the process of projection. In the same way the space-relations of the phenomenal world must be paralleled by a nexus, at least equally complex, of synchronous relations in the noumenal world. But the complexity of the latter may be *greater* by any amount than that of the former. There may be facts of structure in the noumenal world which have no representatives, so to speak, in the world of phenomena. It has always seemed to me probable that this was the truth which Spinoza had in his mind when he said that extension was only one out of a perhaps infinite number of attributes possessed by the universal substance. The possibility in question shows that there is nothing in the doctrine of Mind-Stuff *per se*—Professor Clifford to the contrary notwithstanding—to negative the belief either of the spiritualist or of the theologian. It may or may not be the tendency of physiological research to exclude the conceptions with which these two classes of thinkers are concerned, but this exclusion can certainly not be the result of an acceptance in its most general form of the doctrine here described. On the other hand, there is equally little in it to encourage or lend assistance to theological belief. The proposition that there is a dim quasi-sentiency pervading the world, is as far removed as possible from the proposition that there are *intelligences* unconnected with any brain, and this latter proposition, which is the essence of all spiritualism and theology, can derive no support from the former. In regard to theology, then, the doctrine of Mind-Stuff is neutral. It may rather be described as *monistic* than as materialistic. It affirms that there is only one Existence—that which Herbert Spencer speaks of as the 'Substance of Mind'—and that the supposed dualism of matter and spirit is an illusion."

VII.—CRITICAL NOTICES.

The Brain as an Organ of Mind. By H. Charlton Bastian, M.A., M.D., F.R.S., Professor of Pathological Anatomy and Clinical Medicine in University College, London. With 184 Illustrations. London: Kegan Paul, 1880. Pp. 708.

Dr. Bastian has put into these seven hundred pages the results of

not a little independent thought and inquiry, besides reproducing in a convenient form a good part of what is generally known upon his subject. Apparently, he has not aimed at giving a complete account of the present state of research into "brain as an organ of mind". Even on topics that specially occupy his attention, his information, wide and varied though it be, is apt to fall short of the reader's natural expectation. For example, he discusses the question of the localisation of cerebral functions as it was left by Dr. Ferrier in 1877, and has nothing to say on the later investigations of Goltz, Munk and others. On the other hand, there is large reference to views propounded by himself more than ten years back, before the new era of experimental activity began. It would seem that he has been mainly concerned, during the whole interval, to note those particular advances in neurological science that had a bearing on his own earlier views. These, we may take it, are now set forth in the present volume with full maturity of expression; and our interest is to understand what are the special contributions to the knowledge of mind in relation to the brain or nervous system which so painstaking and enthusiastic a worker as Dr. Bastian professes to have made.

The book has a certain disorderly appearance from the way in which neurological and psychological chapters are mixed up throughout, and the treatment, in detail, is not in fact as clear and orderly as it might be, especially in those more important chapters towards the close where the threads of the whole inquiry are drawn together. It is not very easy to make out what it is exactly that Dr. Bastian does think on several of the most vital points which he discusses there at no insufficient length; but, as regards the book generally, there is a definite plan running through it, as was indicated in the short notice that he furnished to MIND XIX., p. 434, though nowhere clearly in the treatise itself. The plan is, after some consideration of a nervous system and sense-organs generally (pp. 1-69), to describe them as they appear in the lower animals up to birds (pp. 70-137), and then, in the light of a general consideration of mind as it can, at bottom, be known only subjectively in man, to make the best suppositions possible as to the kind of mental life which the behaviour of those animals appears to warrant (pp. 138-253); next, to follow the same order of double treatment in the case of quadrupeds with more particular reference to quadrumana (pp. 254-331); and finally, in the latter half of the book, to carry it out in the case of man as far as Dr. Bastian thinks it can as yet be carried—or, at least, upon the particular lines in which he himself is most interested.

Dr. Bastian does not tell us at the beginning, but long before he has done says plainly enough, what he means by Brain and Mind in calling one the organ of the other. His views on this point, which are somewhat peculiar, claim special attention in these pages and will not be overlooked; but it will be convenient first to note the main points of interest or importance which the exposition offers, on what may be called the common understanding—generally accepted by Dr. Bastian himself—of a relation subsisting between mind and the nervous

system. We may pass over the initial considerations as to the uses and origin of a nervous system: they are partly a reproduction of current opinions (Mr. Spencer's and others'), partly dependent on that theory of the origin of life with which the author's name has become so much identified. Touching structure, he is disposed to regard the neuroglia as at all events in some cases entering into the circuit of nerve-currents, but he has no such view of its pervading importance as Lewes was inclined to form or as Dr. Edmund Montgomery has (in MIND XVII.) definitely expressed, and he rather supposes that it is the "matrix wherein and from which new nerve-fibres and new nerve-cells are evolved in animals, of whatsoever kind or degree of organisation, during their advance in reflex, in instinctive or in intellectual acquirements". A third introductory chapter deals with the use and nature of sense-organs, since these are so predominant in the nervous systems of the lower orders of animals first to be studied. Here, without referring to the manner and order of development of sense-organs as now traced by embryological inquiry, Dr. Bastian gives a view of the organs of special sense on the common supposition of their being evolved from the simple form of touch; distinguishing besides a class of "visceral sensations," of large account for the animal life, as well as the so-called muscular sense, though this last is here only mentioned in order to be reserved for treatment at the human stage.[1]

The outcome of the following chapters, in which, as before said, the author first makes a comparative survey of the structure of the nervous system in lower animals (from mollusks to birds) and then, in view of human self-consciousness, seeks to interpret the facts recorded of their external behaviour, is that mental life in such lower forms is mainly sensorial and grows more complex with the increased variety of sense-endowments. Besides adducing the evidence of anatomical and physiological facts in support of this conclusion, Dr. Bastian would contend, generally, for the measurement of intelligence by sense-endowment upon the psychological grounds (c. xii., on "Sensation, Ideation and Perception," and elsewhere) that higher manifestations of mind can be shown to have a relation to sense, and that the simplest sensation (in us) can be shown to involve conscious discrimination, &c. His expressions, however, seem to want guarding for the purpose he has in view. When he broadly asserts (p. 182) that "Sensation is, in fact, a complex rather than a simple mental process: it is invariably compounded of Cognition and Feeling," one would like to know

[1] The reason given (p. 69) for the reservation is that, as 'muscular sensations' follow or accompany and do not of themselves incite movements, they can be known only subjectively or as they are described by our fellow-men. But, on this showing, Dr. Bastian need not confine himself to saying that "it is obvious we can know nothing about them among Invertebrate Animals": we can know as little of them in any Vertebrates that are speechless.

On occasion of Hearing, Dr. Bastian does not omit to make reference to the part played by the Semicircular Canals in the direction of head and other movements.

from him, with some explicitness, what then is to be taken as "simple" in the mental life of the lower animals. Perhaps c. xi., on "Reflex Action and Unconscious Cognition," is meant to supply part of the answer to this question, but as the Cognition there spoken of is mere "organic discrimination" we are still left to seek.

At the farther stage of his double line of exposition, when he reaches the anthropoid apes, Dr. Bastian finds such unmistakable evidences of intelligence and emotion (like ours) connected with or growing out of their still more varied sense-experience, that he cannot suppress the exclamation, what might their mental advancement not become if only they could help each other forward, in generation after generation, by that means of articulate speech which, in a later chapter entitled "From Brute to Human Intelligence" (somewhat oddly thrust into the midst of his account of the structure of the human brain), he signalises as the distinctive instrument of mental development in man. Other points in the chapters devoted to the lower animals we must here pass by; remarking on the sketch of animal psychology as a whole that, however interesting and suggestive, there is either too much or too little of it—too little for an effective understanding of the particular subject, too much in relation to the general drift of the book.

Coming to the chapters that deal expressly with man, we have first, in a hundred or more pages, a view of the pre-natal development, of the size and weight, of the external configuration and of the internal structure of the human brain. Here Dr. Bastian, at various points of his full and careful exposition, has results of original anatomical research to bring forward, though not of a kind that need detain us. It is from c. xxiv. (p. 477) onwards that more detailed notice becomes necessary. Chapter xxiv. professes to deal with the functional relations of the principal parts of the brain. It hardly carries out the promise of its title. There is first an ingenious speculation as to how the cross-relation between the cerebral hemispheres and the lateral halves of the body may have arisen—where it first is manifest—in fishes and become more pronounced in the higher classes of animals. Then follows a section on the functional relations of the cerebral hemispheres which seeks to throw light on "the duality of body and unity of mind"; but with no particular result. Dr. Bastian can only say (p. 485) that while the great commissure, the corpus callosum, seems more obviously to correlate the sensorial regions of the two hemispheres, it must also be supposed to connect mediately the emotional, intellectual and volitional regions; for is there not "manifestly a unity in our emotional, intellectual and volitional, as well as in our sensorial consciousness"? Observations of that kind or such as otherwise make up this section carry us a very little way. Finally, in the chapter, there is presented a rather careful digest of the manifold views that have been held as to the structural relations and functions of the cerebellum; but when Dr. Bastian proceeds to state his own comprehensive view which shall include all the portions of truth contained in any of the others, it is done in words that suggest more questions than they answer: "The Cerebellum is a supreme motor centre for

reinforcing and for helping to regulate the qualitative and quantitative distribution of outgoing currents, in voluntary and automatic actions respectively; or, more briefly still, it is a supreme organ for the reinforcement and regulative distribution of outgoing currents." How the cerebellum works in relation to the corpora striata, which at a later stage are made of more account for the effecting of movements, is not in any way suggested.[1] Altogether, there is not much to be learned about "the functional relations of the principal parts of the brain" from this chapter.

In the next chapter, "Phrenology: Old and New," Dr. Bastian begins to draw more definitely to conclusions. Here, after a historical sketch of earlier theories of localisation of mental functions, he subjects to special review Dr. Ferrier's allocation of the different senses to particular regions of the cortical substance of the hemispheres. He seems willing to grant that Dr. Ferrier may have detected parts of the brain-surface that are specially involved in the action of the five senses, but he protests vigorously against the notion that the work of each sense is transacted at the particular spot or 'centre' assigned. The truer notion of "perceptive centres," he very reasonably maintains, is that which he himself had long before suggested—widely-diffused and interlacing (though still always definite) complexes of cells and fibres. In the matter of detail, he objects also to the supposition hazarded by Dr. Ferrier that the centre for visceral sensations may be in the occipital lobes. The occipital lobes, being later evolved, are, he urges, least of all likely to be concerned in a class of sensations that count for so much in the mental experience of the lower animals, but must rather be supposed to subserve the higher intellectual functions.

It is in this chapter too that Dr. Bastian first expressly brings forward his doctrine of the 'Muscular Sense,' though it has to be filled in from supplementary passages scattered through succeeding chapters and from a small-type appendix of some ten pages devoted to a critical survey of opinion upon this vexed topic. The subject is one of those which Dr. Bastian took up at an earlier time and on which he now seeks formally to recapitulate his previously published views which, in the main, time has only strengthened for him. Brought together from this place or that, his chief points may be shortly stated thus. There is no 'muscular sense' as the name for an original kind of simple

[1] At the later place, p. 586, he can only say: "The corpora striata conjointly with the cerebellum are doubtless specially called into activity by the cerebral cortex, in ways which are most important though they cannot be precisely defined". The statement, p. 508, that "the cerebellum may be regarded as an enormously developed supreme motor centre" is not easily reconciled, so far as the word 'supreme' is concerned, with what is later said of the corpora striata. Nor, in face of Dr. Bastian's account of Instinct in c. xiv., is it easy to understand the force of his remark about the cerebellum on pp. 509-10:—"That it should appear to have nothing to do with Instinct . . . notwithstanding the fact that it is a recipient of fibres from all kinds of 'sensory' nuclei, is as much in harmony with reason as with experiment—in view of the reflex functions which have been assigned to it."

experience had in the fact of impulse being sent outwards from the brain to the muscles by motor nerves (as Bain, Wundt and others agree more or less in supposing). A muscular act must first be proceeding at the periphery before there can be any question of our becoming sensible of it, and we do become thus sensible through ingoing impressions by afferent nerves alone—without any backward currents in the motor nerves also (as Lewes was inclined to suppose). But the ingoing impressions by afferent nerves are not only to be set down to the head of touch or the related common sensibility (as Ferrier and others suppose). Besides *conscious* impressions from the skin overlying the muscles, or from deeper-seated parts connected with the muscles, or from the muscles themselves, there are other *unfelt* impressions "which guide the motor activity of the brain by automatically bringing it into relation with the different degrees of contraction of all muscles that may be in a state of action". These last, which Dr. Bastian formerly supposed to pass inwards by afferent fibres from the spinal motor cells (short of the muscles), he now thinks are sent inwards from the muscles themselves, equally with the conscious impressions that come therefrom. That they must be allowed for as an independent element in so-called 'muscular sense' is proved for him by pathological cases in which, though both superficial and deeper sensibility were normally present, the power of co-ordinating movements was lost when the eyes were shut. And, generally, it is by interpretation of pathological cases that he is led to maintain each of the foregoing positions. Taking account of all the various elements together, he prefers to speak of them as making up a complex "Sense of Movement" or *Kinaesthesis* which must be supposed to have its diffuse 'centre' in the brain like other senses; though the "kinaesthetic impressions" are in this always peculiar that they are results—not, like other sense-impressions, causes—of movement. None the less, though they do not initiate movements—only guide in the keeping up of movements once begun—he thinks they may in the 'ideal' form be equally effective with other sensations in initiating the acts called 'ideo-motor'.

Deferring remarks upon any part of this doctrine, let us first follow Dr. Bastian in his next two chapters which may be said to complete his view of cerebral action: they are entitled, respectively, "Will and Voluntary Movements" and "Cerebral Mental Substrata". If, in the matter of sensory centres, he can accept Dr. Ferrier's results as partially true, he is wholly opposed to that investigator's complementary conception of 'motor centres'. Those limited areas of the convolutions bounding the fissure of Rolando whence Ferrier supposes that conscious voluntary impulses are sent out to this or that muscular organ, are, in Dr. Bastian's view, not to be called 'motor' at all, but, if anything, 'sensory,' like the others lying farther behind. He takes up this position mainly on the ground of a general analysis of the process of volition. Voluntary action, he finds, is such as is determined by an intellectual stimulus only more complex than in ideo-motor action, and represents nothing in the way of conscious experience but what may be expressed in terms of sensation or ideation. To posit

under the name of 'motor centres' special parts of the cortical substance for a function undistinguishable from what is elsewhere called 'sensory,' is therefore unwarranted. Dr. Bastian is of opinion that nothing can properly be called 'motor centre' higher than the corpora striata (and cerebellum), that the fibres running downwards from the cortex to the corpora striata are as strictly internuncial as those interposed between any sensory and any motor ganglion in lower centres, and that the cortical substance itself is wholly used up for 'sensory' purposes, meaning perception, ideation, &c. Without committing himself expressly, he evidently leans to the supposition that Ferrier's cortical 'motor centres' may be more especially involved in the reception of that class of impressions which he calls kinaesthetic, or at least that portion of them (felt or unfelt) that are not properly tactile and traceable to the presumed centre for touch situated in quite another region. And whatever difficulty there may be in imagining such an oddly dislocated structure as Dr. Bastian's "kinaesthetic centre" would then become, it must be allowed that he tries to proceed with much more consistency than Dr. Ferrier; who, after scouting the notion of a muscular sense distinct from touch and common sensibility, cannot describe the general working of the brain without speaking of his 'motor centres' in terms which imply the existence of 'muscular sense' in the most pronounced form contended for by Bain or Wundt. Dr. Bastian remarks this inconsistency in Ferrier (p. 599), and it can have escaped no attentive reader of *The Functions of the Brain.*

But we may now see that Dr. Bastian, much as he strives to the contrary, perhaps cannot help falling into what is radically the same kind of inconsistency. As far as his general conception of brain-action can be made out from the three chapters last referred to, he seems now to make *Kinaesthesis* of no account at all for mental processes, since they may go on perfectly well without it, and now to interpolate it as a necessary link between the other senses and movement in a way that practically amounts to the whole function ever claimed for 'muscular sense'. If, as he supposes, muscular action must first be in actual process at the periphery before there can be any sense of it—or, as he otherwise puts the supposition, if *kinaesthesis* is always result, not cause of, movement—then movement in the human system cannot well be thought to be kept up or "guided" under other conditions than those from which it sprang, and these are supplied by *passive* sensibility, special or common. If *kinaesthesis*, then, is of no account in the case of actual movement—if it is no source of sensori-motor action—how is it to become the source, as Dr. Bastian declares it, of ideo-motor action? The 'idea' (to use Dr. Bastian's term) of a sensation, like sound or colour, which regularly initiates movement can easily be understood to initiate movement also, but how is an 'idea' of movement to become a cause of movement when a sensation of movement is not a cause of movement but only a result? On the other hand, if it be the fact, as Dr. Bastian in general maintains, that voluntary action and ideo-motor action, involving an 'idea' of the movement to be carried out, are more immediately started from the "kinaes-

thetic centres," then must the condition of these correspondent with such 'idea' stand in a very different relation to the state of the system during actual movement from that in which the condition (say) of the auditory centre correspondent with an 'idea' of sound stands to the condition of the same centre in the case of actual sensation. Now this radical difference is what Bain and Wundt seek to convey when they oppose 'muscular sense' or 'feelings of innervation' to all modes of 'passive sensation'. The only way, in fact, to escape positing such a difference of conscious experience with the difference of nervous attitude is to deny that there is any sense or experience whatever in connexion with muscular activity first or last.

The subject cannot, on this occasion, be pursued farther, but it must be added that, in any case, Dr. Bastian's "Sense of *Movement*" is inadmissible as a substitute for 'muscular sense'. However unsatisfactory this term may be, it is intended to mark something very different from what the proposed substitute pointedly conveys. The 'muscular sense,' whatever be its precise physiological conditions—as involving ingoing currents or not—is the name for a kind of simple mental experience presumed to accompany the innervation of muscles. The experience is not *of* the muscles as innervated or *of* the objective consequences that follow—sometimes apparent movement of limbs, &c., sometimes strain without apparent movement. When "Movement" as such is subjectively apprehended by us, the experience is of a very complex perceptual order, not to be expressed by the term "Sense," even though the fundamental factor of the experience may be supplied by the so-called muscular sense: there is involved also an intuition of space (no matter, whether original or derived) with much else besides. So far, therefore, from promoting the settlement of the question as to the physiological conditions of the various kinds of simple sense-experience, Dr. Bastian indefinitely complicates the problem by his "Sense of Movement" or new-fangled *kinaesthesis*. The like objection is to be made to his occasional use of the term "Space-sense" borrowed from De Cyon.

The remainder of Dr. Bastian's work—still nearly a hundred pages—is mostly taken up with the question of Language (spoken and written), treated in the light and for the confirmation of his general doctrine of brain-action. Here, once more, he but expounds in a maturer shape views set forth "in embryo" before. The subject is treated in full detail from the pathological side, and as an attempt to discriminate and classify, upon definite principles of physiology and psychology, a great variety of morbid affections that are apt to be confounded, the long c. xxix. (pp. 613-72), on "The Cerebral Relations of Speech and Thought," is worthy of all praise. Even the next and concluding chapter of all, while professing to set out "further problems in regard to the localisation of higher cerebral functions," is almost entirely devoted to a summary of results concerning the function of Speech. With any other of the questions involved in an assertion of thorough-going relation between mind and brain Dr. Bastian does not attempt to grapple. He gives as a reason for so abstaining, that it is hopeless to proceed

with any of them till the question of speech is determined; but, though this is plausibly said, more especially in view of his repeated declaration that all higher mental action depends on speech, and though he deserves thanks for doing his best upon the one question which his experience as a physician enables him to treat with some thoroughness, his limitation of the inquiry has the inevitable effect of making his volume, for all its length, a rather imperfect treatise on the subject which it professes to handle. There are other questions, perhaps not less manageable than that of speech, for example—to mention but one—that of Attention as raised in Wundt's *Physiologische Psychologie* in 1875, and just touched by Dr. Ferrier in 1877, which should hardly be passed altogether by in a bulky volume that proposes to treat of mind in relation to brain in the year 1880. Evidently, as before said, Dr. Bastian has been less concerned to write a fairly exhaustive work up to date than to bring together a large quantity of varied materials bearing upon those few aspects of his subject in which he happens to take a special interest.

It still remains to see how Dr. Bastian conceives of Brain and of Mind as related to one another in the way of organ and function. The point is first distinctly brought forward in c. x. on "The Scope of Mind," and his deliverance there is often repeated afterwards in such terms as these: The organ of mind is "that portion only of the nervous system which has to do with the reception, the transmission and with the vastly multiplied co-ordination of 'ingoing currents' in all kinds of nerve-centres"; it does not include any part concerned in the transmission of the 'outgoing current' downwards from the cortical substance of the hemispheres. The reason he generally gives for such limitation is the total absence, as we have seen upon his view, of all conscious experience in connexion with the emission of impulse to muscles; though, even if this were the fact, the reason might hardly be sufficient, in view of the declarations we shall presently hear from him as to the nature of mind. Accepting it, however, we are still in a difficulty. If all structures leading downwards and outwards from the cortex are upon this ground no part of the organ of mind, neither, it would seem, can the afferent lines of the system be any part of that organ, since of (or rather *with*) any process going on in them short of the cortex there is also no conscious experience. Or, if it be said that the afferent lines are part of the organ because the cortical processes (wherewith we are conscious) are excited through them, surely the like must be said of the efferent lines also, when it is not otherwise than through these that the "movement takes place of which there is afterwards a "kinaesthetic impression". Dr. Bastian indeed, in his eagerness (as we may suppose) to be rid of a particular doctrine of the 'muscular sense,' does not hesitate at one place to say that "the processes of motor centres seem to lie even more truly outside the sphere of mind than the molecular processes comprised in the actual contraction of a muscle," since these latter "are at least immediately followed by 'ingoing' impressions whilst so far as we know—that is, so far as any evidence exists—the former are not" (p. 600). Now, there is of

course a sense in which anybody may allow that the muscles, interposed as they naturally are between the peripheral ends of the fibres that run from and the fibres that run to the brain, are a part of the organ of mind. But so long as there is a meaning in speaking of the brain and nerves as composing one 'system' implicated with the mental life, it is idle to speak of the muscles which lie external to it as having a closer organic relation to mind than the whole motor side of the system has. "The division of the nervous system into brain, spinal cord and sympathetic system," Dr. Bastian urges with another purpose (p. 151), "is one which, though justifiable enough on anatomical grounds, is much less so from a physiological point of view—the nervous system is really one and indivisible". It is odd then to read immediately afterwards of "certain reservations" that must be made, so that only "almost the whole nervous system" can be regarded as (in the widest sense) the organ of mind. There is peril in attempting to limit and distinguish thus without the semblance of a principle.

As to Mind, Dr. Bastian is mainly concerned in dealing with its "Scope," to find an expression which shall represent it as not limited to conscious experience without the awkwardness (or worse) of resorting to the use of contradictory compounds like 'unconscious sensation,' &c. First, however, he begins by dwelling upon the peculiarity of our knowledge of mind—that it starts from and always involves the data of direct subjective consciousness, and he is so little disposed to make light of these as to declare (in a truly philosophical spirit) that, "strictly speaking, all knowledge whatsoever of any *other* natural phenomena is still but the expression and the summation of our own conscious states". At the same time he vehemently protests against the notion that Mind is the name of "something having an actual independent existence—an entity". "The term Mind," he says, "no more corresponds to a definite self-existing principle than the word Magnetism"; and apparently he finds nothing in his philosophical interpretation of "natural phenomena," cited in the last sentence but one, to keep him from adding that "conscious states . . . . . are dependent upon the properties and molecular activities of nerve-tissues, just as (!) magnetic phenomena are dependent upon the properties and molecular actions of certain kinds or states of iron". It is this notion of an independent entity, he declares, that entails the error of supposing Mind and Consciousness to be commensurate, and though the grounds of the consequence are not made very clear, let it be noted as Dr. Bastian's conviction, in passing. As said before, his main concern then becomes to fix the notion of mind or mental phenomena as more extensive than conscious experience and to do this in a less contradictory way than by speaking of unconscious feeling and the like; and the aim is distinctly meritorious, even though, elsewhere in his book, he may be as ready as another to use the very compounds he condemns.

In point of fact the difficulty is solved by being, as Hamilton would have said, 'eviscerated'. The question presents itself to Dr. Bastian more especially in this form: Mind as we are subjectively conscious of

it appears as "a mere imperfect, disjointed, serial agglomeration of feelings" &c., while the nervous processes upon which we have reason to believe these disconnected feelings &c. are dependent are parts of one great continuous complex; must we not then suppose that mind is more than the broken series of feelings &c. that we are conscious of, and should we not suppose the *un*conscious states to be something else than "feelings" or the like, which are conscious states? The answer is that the name Mind should and must be enlarged so as to cover along with conscious states, dependent as these are on nerve-actions, "other mere unconscious nerve-actions which are contributory to rather than directly associated with conscious states" (p. 150)—provided always (pp. 148, 9) these be not outgoing currents. Sometimes Dr. Bastian's expression is so far different that instead of "nerve-actions" he says "results" of nerve-actions; but that he means nothing but objective nerve-processes or "bodily conditions" is proved by his arguing (pp. 149-50) that the objection to coupling such with conscious states under the one head of Mind is based upon our ignorance of the true relation between subjective states and nerve-processes. Are not motions, he goes on to say (recurring at this pinch to the philosophical point of view), after all known to us only in terms of feeling? And who is to declare that there is (as he puts the point more plainly on p. 608) "no kinship between states of consciousness and nerve-actions"? All which appears to come to one or other of two things—either that in dealing with Mind there must be no reference to the nervous system or brain at all but only to certain different kinds of feeling; or that we may assume nerve-processes (always excepting outgoing currents) to be mental occurrences as much and in exactly the same sense as any state of which we are subjectively conscious. The one alternative cannot suit Dr. Bastian desiring to write about Brain as an Organ of Mind from the point of view of the positive sciences. The other can hardly seem to anybody a step towards clearness of scientific vision. Leaving aside his philosophical considerations as irrelevant to the question in hand, we get from Dr. Bastian a solution which simply confuses that distinction of subjective and objective occurrences upon which the phenomenal treatment of Mind is based.

Why too does Dr. Bastian, from the ground whereon he places himself, make in the closing words of his treatise (p. 690) that protest against the doctrine of so-called Automatism—that it is "one in which all notions of Free-Will, Duty and Moral Obligation would seem . . . . to be alike consigned to a common grave, together with the underlying powers of self-education and self-control"? If he is sure of one thing, first or last, it is that while conscious states may be "a mere imperfect, disjointed, serial agglomeration," there is throughout life an unbroken continuity of nervous processes. The very purpose of his book is to show that whatever may be included under Mind (which with him is no more an independent entity than Magnetism), it can all be expressed as function of a material organism. Nay, on the very last page but one, when he is leading up to his solemn conclusion, he has it that "just as it is the very material motions on

which Heat depends which do the work ascribed to Heat, so do the very material motions on which Consciousness or Feeling depends do the work which we ascribe to Feeling". How then does his own position differ from so-called (miscalled) Automatism? Let him show us how he more than the 'Automatists' can rescue "Free Will" from the tomb. As for "Duty and Moral Obligation," it is somewhat late in the day to speak of them as kept alive by any particular theory of mind.

On the whole Dr. Bastian cannot be said to have written a satisfying book. Still he has written one that is full of the most varied information, collected with unwearied diligence and no common earnestness of purpose; he has propounded a general theory of brain-action which displays a much juster appreciation of the complexity of the facts than some other theories in vogue; and his psychological observations, while always based upon solid study, not seldom give evidence of remarkable insight. Psychologists would do well to have the book by them for reference on many subjects.

EDITOR.

Spinoza: His Life and Philosophy. By FREDERICK POLLOCK, Barrister-at-Law, late Fellow of Trinity College, Cambridge, and Honorary Doctor of Laws of the University of Edinburgh. With portrait of Spinoza. London: Kegan Paul & Co., 1880. Pp. xlii., 467.

Mr. Pollock's book aims not only at being understood by those to whom Spinoza is little more than a name, but also at contributing towards the work of his critical interpreters. To any reader interested in the life and doctrine of the great thinker, it will strongly recommend itself by literary merits of no common order, as well as the evidence of large-minded love of truth and thorough mastery of its subject. Such as are specially concerned with its topics will hail it as one of the best monographs ever written of a philosopher by one of his warm admirers.

The Introduction contains a careful survey of editions and other publications relating to Spinoza and his teaching. It may be worth mentioning, in addition, that there were at least two different editions of the *Tract. Theol.-Polit.* in 1670[1]; that Dr. Stern recovered in 1872 an interesting fragment from a lost letter[2]; that the Wolfenbüttel library possesses a fourth portrait with some claims to authenticity[3]; and that Prof. Windelband, then of Zürich, delivered a fine

[1] Cp. Ueberweg-Heinze, *Grundr. der Gesch. der Phil.*, 5te Aufl., III., p. 66. As to a first edition of the *Opp. Posth.*, which Stolle reports to have been published at the Hague, there are strong reasons for believing that the German traveller misunderstood the oral statement of his Dutch witness and that such an edition never existed.

[2] Ueberweg, *ib.*, p. 67. It came out of a letter from Oldenburg to Boyle, printed in the latter's Works.

[3] *Supplementa*, ed. Van Vloten, p. 360.

address on the anniversary in 1877.[1] The book had left the press just before the Spinoza Committee at the Hague resolved to prepare a trustworthy edition of the philosopher's works, and Mr. Nijhoff published his fine reprint of the original Dutch *Colerus.*

In the first two chapters we have a substantial account of the life and correspondence of Spinoza. Here again Mr. Pollock has taken full advantage of his acquaintance with Dutch scholars and their language. We may however observe that the Collegiant communities (pp. 17, 22), amongst whom the outcast Jew found a refuge, were but an offshoot from the Remonstrants (the party driven out of the State Church by the Synod of Dordt), whereas in Amsterdam the Remonstrants had their ministry and theological seminary as early as 1629 and 1634.[2]

Chapter iii. deals with the ideas and sources of Spinozism. It begins with a just discrimination between the ideas, which are the living and really momentous part of philosophy, and their technical embodiment, which is always more or less of an artificial kind and destined to decay. The leading idea with Spinoza is the unity and uniformity of the world, and this is conceived as a principle at once of transcendent speculation and of scientific research. The system is an altogether original attempt to unite, and even identify, two distinct currents of thought; one derived from an early study of Jewish and Renaissance thinkers, the other from later meditations on Descartes and the mathematical physics of the time. Mr. Pollock enters into some details in order to show that Spinoza was an attentive reader in both those departments of learning, but one who reserved his own judgment, and, while haunted through life by certain traditions of ontology and of mathematical demonstration, knew where to lay his hand on ideas of vital importance, which he built up into a grand construction entirely his own.

The reader having thus been made acquainted with the man, the surroundings in which he moved and the studies that set him thinking, the ground is prepared for a searching analysis of the works he left to the world. Such is our author's penetration, that one will not find it easy to raise an objection which he has not thought of meeting beforehand. Of his contributions to exegesis we may just mention his remarks on *res aeternae*, *facies totius universi*, and the double meaning of *idea.*

The key to the right understanding of Spinoza's works is the knowledge of their final object. Unlike Descartes, who was content to see his way clearly as a man of the world in peace with its established

[1] Printed in *Vierteljahrsschrift für wiss. Phil.*, I., pp. 419-440.

[2] Also, the Cartesian professor to whom Albert Burgh had written (p. 75) was called Cranen or Kranen, and not Craane; and the Lange Boogaard was not at Amsterdam (p. 447) but a country seat near Schiedam *(Suppl.*, p. 298). One feels half obliged to apologise for remarks like these at a time when a writer like Prof. Fowler *(Locke*, p. 13) makes Cleve the capital of Brandenburg.

powers, and by his own confession[1] treated metaphysics as of minor account, Spinoza yearned in his heart of hearts for perfect happiness as a rational being in full communion with his fellow-men. In the modern conception of the universe, as a consistent whole accessible to reason in all its parts, he found satisfaction for the deep aspirations awakened by his early masters; and for the religious significance and powerful attraction of his doctrine we are certainly indebted to its affinity, notwithstanding its modern tendencies, with ancient and mediæval contemplations of the highest order. The dominance of his rational conception of the world he rightly saw to depend, not so much on great wealth of experience or much exercise of discursive reasoning, as on a firm grasp of the ultimate data of sense and thought. Reliance of the mind on its own competence involves a corresponding belief in the nature of things; and this is at the same time the necessary condition of all true science and sound practice, and of an adequate notion of the all-ruling Deity. Particular discoveries cannot increase the belief, but they serve to specify the actual order of nature, and by those very means add to our knowledge of God himself. Spinoza expressly wants to understand the order of given reality. He takes care to exclude the offspring of mere imagination, a passive condition of the mind, subject to special natural laws. But he so utterly disdains the abstractions in which the degenerate Aristotelians whom he knew of appeared to find the object of their wisdom, as to earn from Mr. Pollock the appellation of a thorough-going nominalist.

Nevertheless he expects to derive a proper understanding of things from their true definitions. Of course he must have admitted real kinds of some sort as a consequence of the uniformity of nature; but then he insists upon definitions that contain the immediate cause of the thing, and account for its properties, so far as it is considered by itself. Now this postulate embraces a precise indication of the kind of thing meant, together with the conditions to which its existence is invariably linked in the order of nature: the ὅτι together with the διότι. Only, the διότι understood by Spinoza is profoundly distinguished from that of Aristotle by his resolute rejection of all final causes. Not that he claimed to possess many definitions answering his demand; but such he took to be necessary for science proper, and he could afford to wait for the progress of rational research, because the happiness which he sought as the chief good was brought about by keeping true to its principle.

Like other reformers, Spinoza himself has greatly added to the perplexities of his interpreters by an extensive borrowing of forms of thought and speech designed by others in a different spirit from his own. He too was obliged in a measure to speak the language familiar to his public, and, moreover, there was a real connexion between his speculations and those of the past, that was apt to go counter to the free development of ideas in his own mind. In such cases critics can hardly expect ever to agree upon the exact distance that separates a

[1] *Lettres*, Paris 1657, I., p. 117; ed. Cousin, IX. p. 131.

genius from his contemporaries or from the intellectual leaders of our own age. While some writers see little in Spinoza beyond reminiscences of his varied reading—thus losing the chance of accounting for his remarkable influence upon modern thought—Mr. Pollock is not unlikely to incur the reproach of making him too much of a modern thinker in a scholastic garb, and undervaluing his theology. Be this as it may, his point of view enables him to discern features of the system too readily overlooked.

On the other hand, we should be on our guard against assuming that any favourite theory of our own days held in common with Spinoza must needs be a clear gain upon his predecessors. It sounds to-day like a plausible doctrine, that the worlds of thought and extension are two aspects of the same thing. What has been fairly proved is, that certain phenomena of body and mind are regular concomitants and subsequents; so that it becomes highly advisable, wherever we find phenomena on the one side, to search for corresponding ones on the other. Still, even supposing that we might stretch our evidence so far as to affirm that the whole of bodily life is fitted somehow with a psychical counterpart and *vice versa*, we should scarcely be justified in inferring that both sides of the web must offer the same variety and distribution of details, as long as we have not the slightest knowledge of what makes the two one. Moreover, in order to eke out our scanty means of information, we are driven to devise psychical facts beyond the reach of the subject, or unconscious consciousness. And we are finally landed in the dread Unknowable when we try to realise that not only the processes in the nervous system but all others in the organism, even before affecting that system, are assumed by the complete theory to have their mental accompaniments; nay, that, outside the animal system, plants growing, salts crystallising, bullets striking a target, are in a similar case. From another point of view, it is rather questionable whether anything really definite is conveyed by declaring that mind and matter are aspects of the same thing, especially aspects not relative to a spectator. Either the thing as distinguished from its aspects, or else the connexion between the aspects that constitute the thing, remains "an unapproachable reality behind the things we feel and know" (p. 299, cp. p. 163), in fact a μὴ ὄν in Platonic phraseology. Instead of adopting Spinoza's famous Substance and Attributes as the solution of a difficulty, one might for the present simply acknowledge a far-reaching parallelism between mental and bodily phenomena, honour the sage as we do a Heraclitus and Parmenides, and to our own case apply Mr. Pollock's rule in another place (p. 156), that "it is better to be a wanderer than to dwell in castles in the air". No doubt all science proceeds on the assumption, that all reality it recognises is amenable to mental representation; but admitting as we now do that for the elements of knowledge we are indebted to experience internal and external, and that our experience is human at its best, it is no idle clause to add that science understands things "so far as we can understand them" (p. 164).

As our author shows (ch. vi.), Spinoza himself holds our perception

of another body to be the mental reverse of a state of our own body as affected by the other. He is fully aware of the inevitable association of ideas, and the fragmentary and inadequate character of human experience. On the other hand, he has no doubt that we all have adequate ideas of such generalities as matter and motion, and even of the absolute nature of attributes of God. Formidable as this statement looks, and notwithstanding its over-confident employment in ontology, it also includes an expression of reliance on the native forms of thought, which, applied to such experience as we obtain, will afford its scientific interpretation, and so lead to ever incomplete but, as far as it goes, genuine knowledge. But then it is needful that everything be subject to the invariable order of nature; and accordingly Spinoza, when he comes to the study of human life, declares for absolute determinism.

On such grounds the rival of the Ionians and Eleatics is able to construct his yet unsurpassed doctrine of the emotions (ch. vii.). In all existence he sees, not a mere passive presence, but an active power of self-assertion, and this not only in ultimate elements of being but in their compounds as long as they exist[1]; among others the complex structure whose two aspects we call the human body and mind. In this case the self-assertion takes the form of a continuous effort (on the mental side a desire) towards power and fulness of life. Whatever helps that effort affects the mind with pleasure, whatever hinders it, with pain. So pleasure and pain increase and diminish the mind's perfection (as their physical correlates do that of the body); and both, together with desire, are "the primary elements of which, according to the variety of objects, all human passions are compounded". Besides the "passions" excited from without, there is a similar group of emotions occasioned by contemplating the vicissitudes of the mind's own rational activity. And from these simple beginnings Spinoza draws the whole of his elucidation of human interests.

He straightway undertakes to make it available for the bettering of human life (chs. viii., ix.). One of his most profound observations is, that emotion can be controlled only by another emotion stronger than itself. He puts his trust not in a power of abstract reason to subdue the emotions, but in the emotion of love[2] arising from a rational view of all things. Good and evil are what is conducive in the long run to pleasure and to pain, that is (as he explains it) to greater and to lesser perfection or fulness of active existence. Now there can be no question of man's good without the good of society of which he is by nature a

[1] We need not stop to enquire, as modern adapters should not omit to do, what is properly the "self" asserted, maintained, or preserved in the case of a compound incessantly changing its components and its qualities. Is it a manner of grouping considered as an entity, or what else?

[2] When Mr. Pollock says (p. 302) that "intellectual love is not an emotion," we must allow that it is not an *affectus* according to the scholion at the end of the Ethics, or what Prop. 42 just before it calls a *libido*. Still it is an *affectus* in the more general sense of III., Prop. 58, to the neighbourhood of which we are referred in the proposition just quoted. Cp. also IV. Prop 7; V. Prop. 7, Prop. 15 demonstr.

member. The condition of progress is not a solitary contemplative life but a constant exchange of cordial goodwill and assistance with our neighbours, to which end Spinoza gives most wise and noble advice. As to our personal improvement, the first step is to see the various emotions that agitate mankind in their true character; the next, to realise "the rational contemplation of the order of the world, and of human nature as part thereof"; which contemplation is inseparable from the most powerful of all emotions, love of God, the ever-present and immutable Being of our being. The love of God is the chief good that men pursue under the guidance of reason; and we can wish it for others as much as for ourselves. Thus the apparent self-seeking from which we started finds its natural development in the truly religious conception of clinging to the Rock of Ages in fellowship with all mankind. Only there is that which must for ever separate Spinozism from Christian theology: the Deity not a person, Passion instead of Sin, Humanity its own Redeemer, the serenity of Insight superseding contrition by Repentance. Regarding eternal life, Mr. Pollock well observes that the most sublime interpreters of religious systems have always known how to distinguish it from persistence after death, and in so far anticipated Spinoza's view of the eternity of mind, which is based upon Aristotelian traditions. Withal it is essential to his system, that the mind has no duration *nisi durante corpore;* and this it would be difficult indeed to reconcile with any of the established creeds. If on this subject as on others he appears to court the approval of theologians by conforming to some of their language, we may surmise—not that Descartes saved him in time from becoming a mystic (p. 303), for he would scarcely have appreciated Descartes but for a kindred rationalism in his own constitution, but—that Spinoza, like other great thinkers, accounted for the vitality of popular tenets from their foreshadowings of rational truth, and was fain to claim alliance with the truly pious of all parties. A longer life than was vouchsafed to him would have left him time to explain himself more clearly still on this as on other matters.

In treating of the political theories of Spinoza (ch. x.), Mr. Pollock's professional learning makes him the most competent of all expositors. He clearly shows how Spinoza, with his Attic ideal of *bene agere et laetari*, takes "a wider and a more generous view of human life" than Hobbes, to whom, as his wont was, he owed instruction but not the allegiance that some suppose. The man who has been misread into an apologist of brute force, was really "a firm and consistent supporter of political liberty," and of so much individual freedom as the conditions of social order appear to allow. It would have been an advantage to possess his never-completed account of democracy; not, however, that he had much occasion to illustrate it from "domestic examples" (p. 338), for the United Netherlands of his time were to all intents and purposes a federal aristocracy. The view of mere social distinctions quoted on p. 335 is characteristically Dutch, and the last words of the passage read like a profession of faith of the De Witt party as opposed to the exceptional status of the House of Orange.

Beside his philosophical doctrine intended to mark the way of salvation to such as are capable of sustained thinking, Spinoza assigns a place to theology as a beneficial rule of life for plain men who do not enter upon philosophy (ch. xi.). The creed he recommends for this purpose is simple enough; it affirms nothing beyond a supreme being, to be worshipped for the sake of salvation by showing justice and charity to all men. Obedience to moral law is the important point, and the real value of prophets and their preaching depends on their power to inculcate this one duty, wherever men crave for an outward revelation, and are unable to apprehend morality as the dictate of reason. Hence, in spite of Spinoza's daring criticisms of the Bible, his reverent sympathy with Biblical and especially Gospel religion as professed by his simple-minded friends. Whether, as Mr. Pollock confidently expects, the distinction between "one creed for the few and another for the many" will ever cease to be a necessity of human nature, may remain an open question, but to his confidence we owe a burst of eloquence (pp. 369-372) of which it will be well to take account before again complaining of the want of fervour in modern convictions.

The last chapter consists of an interesting sketch of the reception and fortunes of Spinozism in the world of science and letters down to the present age. For this as for other master-pieces of speculation the best praise is in the fact, that the nearer we come to the leading men of to-day the more it is seen to grow into the reverence and even the affection of posterity. We may decline to adopt its conclusions on many important problems, but to the suggestions of lofty thinking and worthy living with which it abounds, not even its old opponents are able to close their hearts altogether. And we may add, as a sign of the times, that at the recent jubilee of the senior professor of theology in the whilom Calvinistic university of Leyden, his pupils knew of no gift more fit to be offered to their venerable teacher than a piece of sculpture by M. Collinet, a basso-relievo of the bust of Spinoza.

In five appendices Mr. Pollock gives a reprint of the rare English *Colerus;* the ordinance of the High Court of Holland against the *Tract. Theol.-Pol.* (why not translated into the author's expressive English?); additions to the published Letters; the circular of the late Spinoza Committee; and a genealogical scheme intended to illustrate Spinoza's position in the history of philosophy. A handy index facilitates the use of this admirable volume.

J. P. N. Land.

La Science sociale contemporaine. Par Alfred Fouillée. Paris: Hachette, 1880. Pp. xiii., 424.

The attraction of M. Fouillée's work lies in the hope, held out in the preface, of harmonising discordant theories of society. The recent advances of Sociology, and its prospective occupation of the entire social field, have brought it into competition with the older system which was already in possession of the ground. The radically

different methods of approaching the facts seem at first to lead to results that are irreconcilably at variance with one another. Metaphysics, following that movement of the World-spirit which arrives finally at a consciousness of itself as embodied in society, gives birth to a Philosophy of History which regards social phenomena as the work of a Spirit whose laws of activity can be determined only by an examination of its essential nature. Science in its slow upward progress at length reaches the social order, discovers that it is based upon all lower orders of existence and is a continuation of their activities, and evolves a Sociology which contemplates society in its material aspect, as a physical structure whose functions obey the laws which govern all matter. No two systems could well be more opposed than to all appearance these are, and so long as both remained immature they appeared to have little in common. Further growth disclosed unexpected resemblances, and now it is possible to trace so large a number of parallelisms as irresistibly to suggest the idea that the one is the complement of the other, and the two are divided halves of a unity. On some such conception as this is M. Fouillée's work founded. He describes his object as being to reconcile the idealist and the realist schools of Social Science. He takes as the expression of the idealist view the theory that society originated in a social compact, and he shows how the nature and ends of society can be so explained. By the realist school M. Fouillée, of course, understands the scientific tradition, which he expounds on its accepted physiological basis. A third book treats of that collective social consciousness which, though long familiar to metaphysicians, was first approached from the empiricist side by M. Espinas in a work reviewed in MIND XIII. Books iv. and v. are excursions into the field of Applied Sociology, and apply the author's reconciling ideas to the political problem of the right of the State to punish, and the wider question of the true foundation of social brotherhood. A concluding book sums up the series of discovered syntheses.

The main defect of the work will appear from this *résumé*. Being evidently unacquainted with philosophies of society which are idealist in the sense that they make it consist of a system of ideas, the author has fallen back on that other sense of the term according to which idealistic theories are theories that embody an ideal, and he adopts the doctrine of a social compact as such a theory. With this narrowing of its scope the interest of the work as a "reconciliation" vanishes. The systems left *un*reconciled cover one-half of the ground; the system reconciled, though both true and important, will account for but one element or aspect of the social life. An examination of the latter, on M. Fouillée's lines, may possibly disclose what this aspect is. We are first of all struck by the high pedigree of the hypothesis of a social compact. M. Fouillée writes as if Rousseau were the author of it, yet he himself cites a fragment from Epicurus where the doctrine is explicitly stated. We may add that it can be traced under one form or another all through the Middle Ages, and by the time that Rousseau began to write it was already a commonplace. Rousseau, indeed,

rendered it the service of popularising it, as well as the more questionable service of putting the imaginary original contract into words. On the other hand, it has been condemned with remarkable unanimity by politicians and divines, by metaphysicians and sociologists, by jurists of the critical and jurists of the historical schools. Thus encompassed with a cloud of witnesses and gainsayers—rather discredited witnesses and very authoritative gainsayers—M. Fouillée shows courage in placing the "figment" in the foreground. His courage soon deserts him. If the compact was not made at the commencement of society, it is difficult to see how it can have been made at any later stage; if it does not explain the origin of the social union, it can hardly be made to explain the nature and ends of the union. Yet in exactly this inconsistency M. Fouillée seems to involve himself. He speaks of Rousseau as having undergone, in common with his century, an intellectual mirage, and conceiving that as the beginning which is only the ideal and will be the end of society. M. Fouillée gives up his cause too lightly. The unbroken tradition of an original compact may be regarded as a philosophical myth which bears the same relation to the facts as religious myths, and ought like them to be explained and not simply rejected. It may be the residue or reflection of a critical stage in the history of man when a struggle occurred, once for all or perhaps repeatedly, between the centralising and the dispersive tendencies, in which the centripetal gained the mastery. There is nothing absurd in supposing that instead of electing to live in society the primitive human families might have chosen the solitude of the carnivores. There are semi-social groups even now in existence which may be the survivors of groups that did so choose. It is possible that the vast interval which separates savage man from his non-human congeners was occupied by those which refused the social alternative and perished in consequence of their refusal. Whatever may be the worth of this speculation, it is no answer to the theory in question to say that we have no knowledge of the formation of societies in this way. We have no knowledge of the real origination of societies in any way, but it is a confirmation of the theory to find that there is no single social relation at the known beginnings of which we do not find the voluntary element or the element of contract. M. Fouillée has decidedly understated this part of his case. He mentions, after Rousseau, the voluntary character of marriage. All recent inquiry into the formation of the sexual union shows that alike among the animals and among men, if choice is the privilege of the male, acceptance or rejection is the prerogative of the female. The industrial relations are in all stages of society more or less voluntary. The voluntary element is continually emerging in the formation of auxiliary associations. Voluntary leagues for war or plunder (as described by Tacitus in Germany) sometimes migrate and found peoples. The feudal bond (as has been pointed out by Guizot) was in part a voluntary contract, perpetually renewed. And the contract upon which Government partially rests is daily renewed by oath-taking and elections, and is implied in resistance and rebellion, in political abstinences and emigrations. The origin of the social

union being thus to a great extent voluntary, what is consequently the nature of it? Here we come into the presence of two opposite theories. According to metaphysicians, a new kind of being, a new order of existence, has been created—a State with a personality and therefore rights of its own. Nominalists hold, on the contrary, that a State is a mere aggregate of individuals, and, as spoken of individually, a convenient fiction. M. Fouillée, forgetting, it seems, that his design was to harmonise discordant views, and forgetting also that he had accounted only in part for the origin of society by means of a compact, which for that reason will only in part explain its nature, ranges himself with the latter. Whatever other ties may bind society together, the truly human bond, he says, is an act of the will, and this, he argues, is nothing more than a new relation among the individuals performing the act. The answer to this seems to be threefold. If "truly human" means solely human, then society is not solely human, but is in great, perhaps in greater, part animal. Secondly, a mere aggregation of kindred elements creates a new compound substance, and though the social union is more than a chemical union, it is that at least, as it inherits the properties of all lower aggregates. And lastly, M. Fouillée makes a fatal concession in admitting that a new relation emerges, for the rise of a new relation between two or more individuals (the author is right in saying that numbers do not affect the result) alters the nature of the individuals exactly in proportion to the extent of the relation. It does not follow that the metaphysicians are justified in claiming for the State rights which are not those of any or all of the individuals composing it; and here we agree with M. Fouillée. But the rights of individuals must be understood in their largest sense. Any particular individual is a mere point in the infinite line, a mere link in the unbroken chain of individuals, and the rights of all the individuals of a generation are a mere fraction of the total rights of which the State is trustee. The State stands for the past and future, as well as for the present, of existing individuals. It would be unprofitable to follow the author in his discussion of the objects and functions of Government from this point of view. He rears his theories upon too narrow a foundation. The significance of the doctrine of the social compact lies in its being an expression of the fact that it was kinship and community of nature which brought, as it keeps, men together, and that no form or functions of government ought to exist or be exercised which are based upon force. But force, too, has had its share in founding society, in building it up, in holding it together; and this is one half of the idealist social theory which M. Fouillée has failed to state as the correlative of the other. The two together would form part of a Subjective Sociology which would bear the same relation to Physiological Sociology that Subjective Psychology bears to Physiological Psychology, and which would investigate the sexual appetency, the parental and filial affections, the social attractions and repulsions, and generally all forms of the social consciousness.

The second part of the work is taken up with Physiological Soci-

ology. Here the same questions arise as in the previous part. What are the origin, nature, ends, and functions of society considered physically? M. Fouillée omits to discuss the origin of the social union from this point of view, though it is probably in this direction that a solution of the problem is to be looked for. He passes at once to the nature of it, and adopts the accepted position that it is an organism. This position has recently been assailed (see MIND XX., 488) on the ground that it is based on a false physiological theory—the cell-theory; but the analogy between the social and the individual organisms, which is almost as old as language, has an unbroken tradition, and has been shown to hold good in the minutest details, is independent of any theory. With this analogy Sociology stands or falls; if it is untrue, Sociology can be nothing more than a collection of empirical generalisations. M. Fouillée gives the usual proofs, with two additional arguments. First, the social, like the individual, organism is a compound individual consisting of a multitude of lives moving towards a final equilibrium. Unfortunately for the argument the composite character of the individual has just been strenuously denied and to all appearance disproved. Dr. Edmund Montgomery's masterly discussion (MIND XIX., XX.) leaves hardly any room for doubt that the organic individual is a unity, and sociologists were already prepared to accept the inference that the social organism is likewise a unity. M. Fouillée maintains, secondly, that the individual and social organisms are equally characterised by spontaneity, or an innate tendency towards their own preservation and development. In answer to this we may quote Drysdale (*Protoplasmic Theory of Life*, p. 199), who says that "true spontaneity of movement is . . . just as impossible to" the protoplasmic molecule "as to what we call dead matter". With respect to the social organism, the notion of an intrinsic tendency towards evolution has now been rejected (see Spencer, Appendix to *First Principles*, p. 574). The premisses thus breaking down, the conclusion the author deduces would seem to fall with them. It is to the following effect. There is *une finalité intérieure*, a blind co-operation of the parts towards a common end, exhibited by all organisms. In organisms arrived at self-consciousness a consciousness of the ends of their being arises, and the co-operation becomes intelligent. This is effected by means of *idées-forces*—ideas that are forces, operative ideas, which react on the organism and promote its development on the lines along which it is perceived to be moving. The application of his argument to the social organism is as follows. Society is moving towards a state in which all its relations will be regulated by free contract. Contract becomes an idea consciously entertained by a society. But all ideas are forces that tend to realise themselves. The idea of contract is being realised by society. Society consequently is becoming *un organisme contractuel*—an organism governed by contract. Science and philosophy are thus reconciled and the world-old dispute between idealism and realism happily composed. It is too good to be true. M. Fouillée leashes two utterly incongruous ideas. Organism and contract are incommensurable in thought and mutually exclusive in fact.

Herzen has shown that consciousness arises in the individual at the point where organisation ceases, and quits the ground it has occupied as organisation takes possession of it; organisation chases consciousness, which retreats before it. It is the same with society. Contract governs, at least in part, every social relation at the outset; but as fast as each relation gets regulated by fixed arrangements or, as we say, is organised, and society becomes to that extent an organism, the freedom of action which contract implies ceases to be possible; the organic and the contractual are alien spheres. Thus falls the keystone of the arch which was to have bridged the gulf between matter and mind.

The remainder of the work is occupied with questions of great but subordinate importance. By a natural transition the author passes from the physical to the mental aspect of society and asks whether, resembling the individual in being an organism, society also resembles it in possessing a consciousness. He is unable to admit that it does. He even goes the length of denying real unity to the individual consciousness. The individual consciousness is a compound of the simultaneous action of milliards of cerebral cells, and its apparent unity arises from the superposition of millions of images. It is similar with society. The social organism possesses no single consciousness, and is not even under the illusion of possessing one. The argument rests in both cases upon what we believe to be a misconception. The individual is not composite but a unity. Society in like manner is not an aggregate formed and cohering by contract, but a whole which has parts. Not the unity of the whole but the wholeness of the parts is the illusion.

Space fails us to discuss M. Fouillée's applications of his theories, which have an independent value. The first treats of the right of society to punish crime, which might have been traced back on its physical side to the mechanical law that action and reaction are equal and opposite; M. Fouillée, however, rejects the notion of an equivalence between crime and punishment. He also discusses the duty of society to redress collective wrongs, and a chapter in this connexion on reparative justice does honour to the writer's character. The second attempts to find a natural sanction for the feeling of brotherhood and other social precepts, and it is well that such sanctions should be discovered. But no statement of the foundation of duties is complete which rejects as mysticism the religious sanctions.

J. Collier.

Pädagogische Psychologie. Ein Versuch von Gustav Friedrich Pfisterer, Seminarrektor in Esslingen. Gütersloh: C. Bertelsmann, 1880. Pp. vii., 340.

Just now when a special interest is awakened in the Science of Education in this country, it may be useful to inquire how this science stands in the country where it has been most completely differentiated and elaborated. Germany is rich in works on *Pœdagogik*, and some of her ablest psychologists have taken pains to work out their peculiar

conceptions of mind into the form of a practical doctrine of education. This direction has been specially followed out by Herbart, Beneke and their followers. As the author of the present work tells us in his preface, "the largest number, and in some respects the ablest of the productions of recent *Pædagogik* are completely dominated by the psychology of Herbart and Beneke". Since with all the good work that this psychology has done it must now be regarded as undergoing a process of supersession, it seems time that the newer developments of psychological science in Germany should reflect themselves in current theories of education. Our author seems to have felt this, and his work is an attempt to bring up educational ideas to the present high-water mark of psychological advance.

Herr Pfisterer, it may as well be said at once, can hardly be congratulated on having accomplished the task which he proposes to himself. Although he has read a number of authors, his reading seems to have been of a rather desultory kind. The writer whom he has best understood and most completely assimilated is Lotze; but even Lotze when measured by the present condition of psychology of Germany seems almost to belong to the Herbartian school. Next to Lotze, J. H. Fichte, Ulrici and Lazarus appear to be our author's favourites. Wundt is indeed referred to, and so too is Horwicz, yet it is evident that the writer has not penetrated far into the meaning of the newer physiological psychology. He firmly takes his stand on the idea of a spiritual substance, a metaphysical mind, which if not rigged out with all the fanciful mechanical apparatus which Herbart and Beneke, each in his own way, attributes to it, is still regarded as endowed with a number of wonderful half-mystic impulses. Thus in his Introduction the writer describes the activity of the soul as consisting of the combination and interplay of different polar opposites, as that of being and becoming, of centre and periphery, of independent and dependent existence, and so on. After this we shall not expect much of scientific insight into his subject. How far Herr Pfisterer is from availing himself of the results of a strictly scientific psychology may be seen by a glance at his account of the doctrine of association. It is incorrect, he remarks (after J. H. Fichte), to say that an idea calls up or draws along with it another idea: such a calling up is always an activity of the mind itself. "It is this which frames a connexion, that somehow interests it, between two or more ideas, either at once on their first reception, or later in the free play of its fancy" (pp. 98, 99). A mystery is resorted to, a play of unconscious mental activity, while the obvious alternative of a physiological basis is not even glanced at. The writer evidently thinks he is doing much for the science of *Pædagogik* by thus substituting the idea of occult spiritual activities for the dead mechanism of the Herbartian school. But it may be doubted whether by so doing he is bringing the science of Education into a fruitful relation to the latest results of psychology.

Yet in spite of his want of a wide psychological training and his leaning to quite gratuitous hypotheses respecting the innermost nature of mental activity, our author manages to write a very interesting and

instructive volume. He has a clear perception of the relation of psychology to education, and sees that it is the laws of mental development which must specially be applied to the subject. In order to make his work more practical if less scientific in form, he adopts the alternative of tracing mental development as a whole in the successive stages of early life, infancy, childhood (from the second to about the seventh year) and early youth (the school period from this last to about the fifteenth year). Under each of these divisions he describes and seeks to explain the unfolding of the various activities of intellect, feeling and will. In this way he is able to give a more complete concrete picture of the mental life of a particular stage of development than if he had sought to work out the progress of each of the three great phases of mental life separately. Herr Pfisterer is, one would say, an experienced observer of early life, and many of his remarks are striking and valuable. Thus for instance he meets the common idea, which is found even in scientific works, that the infant carries objects to its mouth for the purpose of tasting and eating them by the sensible suggestion that this action is due to the fact that "the tactual nerves of the lips are owing to the experience of sucking more early developed than those of the hands" (p. 44). The handling of the whole subject of children's play as distinguished from occupation and work properly so-called is careful and suggestive. Play is regarded as the outcome of imagination and spontaneous individual impulse. The author would have been able to go further and account for the common forms of play among the two sexes if he had availed himself of Mr. Spencer's theory of inherited active dispositions of a definite character answering to the most permanent occupations of the race. But unfortunately our author seems to know nothing of the doctrine of evolution, which affords many a valuable suggestion to the student of childhood. This is all the more regrettable since more than one of the innate impulses which are here attributed to the child, as the *Sprechtrieb*, the impulse of attachment to others and so on, appear to receive an easy explanation from the evolutionist's point of view. English psychology has perhaps made too little of those innate dispositions, emotional, intellectual and active, and the work before us is so far valuable as it points distinctly to the unfolding of definite tendencies at particular periods of early life. Only, these innate promptings must not be regarded as something ultimate but referred to the influence of that vast region of human activity which has helped to mould and shape each one of us.

The author's treatment of the more practical side of the subject is marked by considerable ability. Amid the conflicting views on educational subjects which are to be met with in Germany as here, Herr Pfisterer takes up the thoroughly common-sense ground of opposition to all extreme doctrines. Here his manner reminds us often of that carefully balancing method of Lotze, our author's favourite master. Thus, for example, on the subject of Kindergarten occupations he distinguishes between what is psychologically sound and "the speculative-mystic accessory ideas and caprices" in Fröbel's system. And

while praising the practical part of it as eminently adapted to children of four or five years he objects to younger children undergoing the system, since for their stage of development play and not occupation is the natural thing, and a kind of play that can best dispense with any interference from without.

JAMES SULLY.

VIII.—NEW BOOKS.

[*These Notes do not exclude, when they are not intentionally preliminary to, Critical Notices later on.*]

The Power of Sound. By EDMUND GURNEY, Late Fellow of Trinity College, Cambridge. London: Smith, Elder, 1880. Pp. 559.

The distinctive points of this important work will be fully reviewed in the next number of MIND.

"My chief object (says the author), after certain preliminary explanations, has been to examine, in such a way as a person without special technical knowledge may follow, the general elements of musical structure, and the nature, source, and varieties of musical effect; and by the light of that inquiry to mark out clearly the position of Music, in relation to the faculties and feelings of the individual, to the other arts, and to society at large." "One word may be said as to arrangement. My primary concern being with the Æsthetics of Hearing, and in particular with Music, the various analogies and contrasts which other regions of experience present have been introduced in connexion with the different divisions of the main subject; which has led to a somewhat sporadic notice of other arts. To those who believe in transcendental links, making all the arts One, this treatment may appear unsatisfactory; but it certainly conduces to the distinctness of my humbler line of argument."

Epicureanism. By WILLIAM WALLACE, M.A., Fellow and Tutor of Merton College, Oxford, LL.D., St. Andrews. London: Society for Promoting Christian Knowledge, 1880. Pp. 272.

Stoicism. By Rev. W. W. CAPES, Fellow of Hertford College and Reader in Ancient History, Oxford. London: S.P.C.K., 1880. Pp. 252.

These two small volumes are the first of a series of Manuals on Ancient Philosophies, to stand by the side of the other series on Non-Christian Religious Systems, on Ancient History from the Monuments, &c., which the Society for Promoting Christian Knowledge, acting by its Committee of General Literature and Education, has lately, with remarkable liberality of spirit, been publishing.

Epicureanism is a thoughtful and scholarly piece of work. It consists of an introduction giving the general bearings of Epicureanism to Greek thought generally; of a most interesting sketch of Epicurus and his age and of the Epicurean brotherhood; and then, after an account of the documentary sources, of an orderly and well-rounded

exposition of the system, followed by a concluding historical sketch of its later fortunes and influence. The author enters with sufficient sympathy into his subject, and is singularly fair-minded in his judgments, which, it need hardly be added, are independently formed. On the whole, the little book may be pronounced a model-work of its kind.

Stoicism is well and interestingly written, but the author gives only a meagre account of the system as it was wrought out among the Greeks, and is somewhat rhetorical in his expansion over the series of its Roman representatives. There is not much trace of independent judgment, and the treatment is apt to be *tendenziös*—directed more to edification than enlightenment.

Descartes. By J. P. Mahaffy, M.A. Edinburgh & London: Blackwood, 1880. Pp. 211.

This volume opens the Messrs. Blackwood's Series of "Philosophical Classics for English Readers". Professor Mahaffy has taken pains with the life of the philosopher. He goes for himself to the original sources and, while independently sifting the available evidence (including the results of later researches), is able, with his practised pen, to present a really attractive sketch of the man and all his varied activity. He is not as successful with the philosophy. Except for incidental references in the life—amounting in all, no doubt, to something considerable—little more than the last fourth of the volume is given to the exposition of Descartes' system of thought. The author speaks, in fact, of giving, upon the philosophy, only a "short appendix to Descartes' life," though the Prospectus of the Series would lead one to expect a good deal more. Neither does the exposition, while short, bring the cardinal points of the system into as much prominence as was still possible. The fundamental position of all, so important for the future history of philosophy as well as for Descartes' own system, is strangely slurred over, on p. 149. On the same page, it may also be remarked, the principles of Contradiction and Causality get mixed up (probably by misprint). The "A. Bouillet" of p. 4, repeatedly quoted afterwards under the same surname, must be meant for F. Bouillier. A welcome feature of the book is a good autotype rendering of the Hals portrait in the Louvre.

Unconscious Memory. By Samuel Butler, Author of *Erewhon*, &c. *Op.* 5. London: Bogue, 1880. Pp. 208.

The body of Mr. Butler's *Op.* 5 consists of a translation of the remarkable lecture "On Memory" delivered by Hering in 1870, followed by a translation of the long chapter on "The Unconscious as Instinct" in Von Hartmann's *Philosophy of the Unconscious*. He is enabled to elucidate his own views on Evolution, as propounded in previous works, by showing (in some additional chapters) how they substantially agree with Hering's positions and how they are opposed to Von Hartmann's. Readers who do not go beyond English should

thank him for the translation of Hering's lecture which long ago attracted attention as a singularly bright and pointed exposition of the thesis that all fixing and reproduction of effects wrought in organised matter may, by analogy with the changes believed to be wrought in the brain on occasion of conscious memory, also be spoken of as a kind of "memory". Before coming to the serious part of his undertaking —for he has now become serious and even a little pedantic as he gets on with his views—Mr. Butler provides some entertainment for the reader, in his earlier vein. With perfectly sustained gravity, he records the whole course of his own evolution as a writer—where and how he was situated when this or that idea came into his head, to be afterwards set down in one or other of the *Opp.* The story leads finally up to a terrifying exposure of the arts whereby Mr. Darwin "and his friends" thought to elude the blows aimed at the doctrine of Natural Selection in *Op.* 4—a book, says Mr. Butler, in which "I was hardly able to conceal the fact that, in spite of the obligations under which we must always remain to Mr. Darwin, I had lost my respect for him and for his work". This, in its way, is inimitably said, and there are many more sentences, up to the last of all in chap. 5, quite as good. Clearly, though he may have grown serious otherwise, Mr. Butler carries still about with him the "memory" of old powers.

The Story of Philosophy. By Aston Leigh. London: Trübner, 1881. Pp. 210.

This book, which aims at presenting concisely and in popular language the history of the rise and progress of Greek philosophy before Christ, is "the result of several years' reading and research". The reading, apparently, has been confined to English works or works in English upon the subject. The research, not said whither, has not been without result. Socrates, we learn, was "an insignificant little man," but had been "a brawny broad-shouldered youth" with "muscles twisting about his arms and against his shoulder-blades like brown snakes"; his mother's name was "Philarete" (not Phaenarete); it was to "Esculapeius" that he owed that last cock. Again, Plato began life as a "brown babe" and a "black-eyed infant"; his father was "Aristocles" (not Ariston), his grandfather "Aristony" (not Aristocles). Many more new or interesting facts of this description could be quoted from Mr. Leigh's pages, but these may suffice, by way of specimen. There is much less of philosophy than of philosophers in the book. Thus Aristotle the man takes up twelve pages, while his "philosophy and works" are disposed of in less than five. Still these too, few as they are, enshrine many novelties. For instance:

"Aristotle examined sixteen forms of the syllogism. If the first and second premisses be inverted, a wrong conclusion must follow. To give an example of a defective syllogism: No work of God is bad: The passions of men are the work of God: Therefore the passions of men cannot be bad. It required a Socrates to set straight the crooked syllogistic method, which was most likely undreamt of during his life-time."

In another vein of observation, we get this conclusion to the notice of Pyrrho:—

"When we read history we find that the doubters—however magnificent their powers, however tremendous their efforts—have failed to establish a lasting footing in the world of thought. Who talks of Luther, the bold enemy of Catholic Christianity, now? Where is the word 'Protestant'? Where are the followers of the various seceders from recognised belief, even in the Christian era," &c.

The present *Story* is but the prologue to a work that will soon follow on "The Progress of Philosophy after the Birth of Christ".

Wish and Will: An Introduction to the Psychology of Desire and Volition. By George Lyon Turner, M.A. London: Longmans, 1880. Pp. 356.

"The following pages (says the author) were printed in the first instance for use in the college class-room, and not with a view to publication. . . . Had I from the first had the needs and tastes of the general reader in view, the form in which the matter is presented would probably have been somewhat different. . . . The points to which I would specially ask attention as peculiar in their treatment, if not absolutely new, are the following:—The position assigned to Desire as involving an essential contrast and distinction between 'Wish and Will'; an essay at the psychological investigation of the functions, the range and the methods of operation of Volition (as the proper introduction to the great controversy as to Liberty and Necessity), a thing (never to my knowledge) fairly attempted before; a careful investigation of the Nature and province of Law with a view to determining its relation to Volition; a somewhat detailed examination of the mutual relations of Volition and Character (including a special effort to grapple with the subtlest form of the argument of the Necessarians on that question); and a brief reference to the ontological significance of its phenomena."

Guide to the Study of Political Economy. By Dr. Luigi Cossa, Professor of Political Economy in the University of Pavia. Translated from the Second Italian Edition. With a Preface by W. Stanley Jevons, F.R.S. London: Macmillan, 1880. Pp. xvi., 237.

Professor Jevons, in his short preface to this anonymous translation of Prof. Cossa's work, says it "presents, in a compendious form not only a general view of the bounds, divisions and relations of the science, marked by great impartiality and breadth of treatment, but it also furnishes us with an historical sketch of the science such as must be wholly new to English readers". The Historical Part makes two thirds of the whole.

Contributions to the History of the Development of the Human Race. Lectures and Dissertations by Lazarus Geiger, Author of *Origin and Evolution of Human Speech and Reason.* Translated from the Second German Edition by David Asher, Ph.D., Corresponding Member of the Berlin Society for the Study of Modern Languages and Literature. London: Trübner, 1880. Pp. 156.

Five Lectures delivered within the last four years of the author's life, 1867-70, on—"Language and its importance in the history of the Development of the Human Race," "The Earliest History of the Human Race in the light of Language, with special reference to the Origin of

Tools," "Colour-Sense in primitive times and its Development," "The Origin of Writing," and "The Discovery of Fire"; with an Essay on "The Primitive Home of the Indo-Europeans" written just before his death as the first of an intended series of similar dissertations. The presentation of Geiger's linguistic views, in his own words, to English readers, is welcome, though it be only in these popular lectures and not in their more systematic form. The lecture on "Colour-Sense," delivered as far back as 1867, has a special interest as giving the starting-point of so much recent discussion and inquiry. Dr. Asher deserves thanks for his thought of translating these pieces and for the performance.

The Philosophy of Art: Being the Second Part of Hegel's *Aesthetik*, in which are unfolded historically the Three Great Fundamental Phases of the Art-Activity of the World. Translated and accompanied with an Introductory Essay giving an Outline of the entire *Aesthetik*. By Wm. M. Bryant. New York: Appleton. Pp. liv., 194.

The first and second parts of this translation, dealing with Symbolic and with Classic Art, are rendered from M. Ch. Bénard's modified French version, but not without constant reference to the German original. The third part, on Romantic Art, is taken straight from the original, M. Bénard's variations there becoming much more frequent and fundamental. The greater portion of the translation appeared previously in *The Journal of Speculative Philosophy;* the Introductory Essay, in *The Western*. The translator hopes to be able, in due time, to render the entire work available to English readers.

L'Éducation dès le Berceau: Essai de Pédagogie experimentale. Par Bernard Perez. Paris: Germer Baillière, 1880. Pp, viii., 302.

The author here follows up his psychological sketch *Les trois premières Années de l'Enfant*, reviewed in Mind XII., 546, by applying his own and all available results first to the question of the Moral Education of the infant; whence he will proceed shortly to deal, in a separate work, with the question of Instruction. Moral education (as well as instruction), he supposes, may begin at least "from the cradle," if not earlier. It consists in regulating "the innate forces that impel to action,"—Sensations, Emotions, and Volitions. The moral education of the Senses; culture of the Intellectual Emotions; relations of Sensibility and Activity; culture of the Social Emotions; development of Moral Habits and Moral Sense—are the main topics of the book. The treatment is thoroughly fresh and concrete. M. Perez has studied multitudes of children at close quarters, and gives the actual facts upon which he founds his prescriptions.

La Vie inconsciente de l'Esprit. Par Edmond Colsenet, Ancien élève de l'École normale, agrégé de philosophie, docteur ès lettres. Paris: Germer Baillière, 1880. Pp. 277.

The author does not occupy himself with the Unconscious as a basis of metaphysical speculation, but seeks, as a psychologist, to study the

whole body of facts suggestive of an unconscious mental life. These, after a preliminary examination of the doctrine as originated by Leibniz, he groups under four heads—Facts of Knowledge, Determinations (voluntary or necessitated), Tendencies (principles of activity, natural or acquired), Facts of Sensibility (feelings of pleasure or pain, inclinations, passions). His general position is indicated in the following quotation :

"Beneath the luminous surface that lies open to internal observation, there stretches a region obscure and unperceived, peopled with psychological phenomena of which we grasp only the final effects in their various combinations and modifications. The apparent causes do not suffice, at any moment, to explain our emotions, our sensations, our volitions even. Every conscious fact is rooted in the unconscious. To explore this hidden region unattainable by intuition, resort must be had to induction and hypothesis, based on the analysis of facts."

Geschichte der Psychologie. Von Hermann Siebeck, Professor an der Universität Basel. Erster Theil, Erste Abtheilung: "Die Psychologie von Aristoteles". Gotha: Perthes, 1880.

This is the first instalment of a work which promises to fill a serious gap in scientific literature. The author, considering that psychology is becoming, if it has not already become, an independent science, believes that its progress now will in no small measure depend upon a true understanding of the results that have been actually attained during the whole past time when mental inquiry has been pursued as a part of general philosophy. He sets himself therefore to disentangle from the general history of philosophical thought all distinctively psychological matter, and to do this in a form that will not repel the cultivated reader while it satisfies the demands of the professional inquirer. The whole work will be in three volumes. The second half to come of the first will include the entire Aristotelian movement, with its Patristic and Scholastic consequences ; the second volume will bring the record down to the end of last century ; leaving for the third the account of all the increased activity of the present century psychophysical as well as psychological. In the present instalment of the first volume, the author leaves aside the subject of Oriental psychology as one that he cannot treat at first hand and for other reasons, but he does not take up the earliest beginnings of Greek inquiry without some reference to the still more primitive notions of mind and body found among uncultured races. Once embarked upon the stream of Greek philosophy, he works in a careful and exhaustive manner. Plato is treated at a length of nearly a hundred pages. We shall look with interest to his next Part, which will more decisively test his ability to supply all that is wanted in a History of Psychology. It is to be hoped that his account of the Schoolmen's views will not be too much of an "übersichtliche Darstellung".

Zur Geschichte und Begründung des Pessimismus. Von Eduard von Hartmann. Berlin: Duncker. Pp. xvi., 141.

This is a curious contribution to the history and defence of Pessimism from the pen of its foremost living teacher. The chief point of

the volume is the attempt to extract a pretty complete system of hedonistic or 'eudæmonistic' pessimism from the writings of Kant. The importance of this attempt calls for a fuller notice in a later number of MIND. [J. S.]

Die Philosophie der Mythologie und Max Müller. Von Dr. EUGEN VON SCHMIDT. Berlin: Duncker, 1880. Pp. 108.

A theory of the Pre-Christian development of the consciousness of Deity in general, followed by a more special investigation of Greek mythology, particularly in reference to Hermes, Hestia, and Pallas Athene, as representing the natural powers of light, heat, and thunder. The author, in opposition to Prof. Max Müller's method of direct mythological interpretation, would start from the prior investigation of the psychological laws of mental development in man.

Der Widerspruch im Wissen und Wesen der Welt. Princip und Einzelbewährung der Realdialektik. Von Dr. JULIUS BAHNSEN. Erster Band. Berlin: Grieben, 1880. Pp. xix., 462.

"Under the pressure of unfavourable times there ventures here into publicity a work that even under friendlier constellations would have had to struggle for existence. Half from choice, half from necessity, it has seen more than the proverbial *nonus annus* go by while it has been growing; yet still it cannot say that its hour has struck. The world is still too much enamoured of its fancied exact knowledge not to turn its back upon a critical investigation that aims at nothing less than undermining the logical foundations of all cognition. . . . Whether and when the second half of the work, dealing with ethical relations, may hope to see the light, cannot at present be determined."

IX. MISCELLANEOUS.

The recently formed "Aristotelian Society for the Systematic Study of Philosophy" entered on its second Session in October last. It does not belong to any sect or "school" of philosophy, but was formed by, and chiefly consists of, students who meet for the purpose of mutual assistance and encouragement in the prosecution of philosophical enquiry. The opening address of the session, on "Philosophy in relation to its History," was given by the President for the year, Mr. Shadworth H. Hodgson. Information as to terms of membership, &c., will be given by the Hon. Secretary, Dr. A. Senier, 1, Bloomsbury Square, W.C.

Dr. Ludwig Büchner's *Geistesleben der Thiere* will appear in an English dress early in January. It is now being translated, with the author's permission, by Mrs. Annie Besant, and will be the first of a series of works which will appear under the name of the "International Library of Science and Freethought." Dr. Ernst Haeckel has also given permission that one of his books shall appear in the same series, and has offered his drawings for its illustration. Dr. Büchner's work is intended to show that the intellectual powers of man take origin in the lower animals, and that there is no distinction of kind between the so-called instinct of the lower animals and the reason of man.

Revue Philosophique.—Vme Année, No. 10. Ch. Richet—Du somnambulisme provoqué (I.). G. Lyon—Un idéaliste anglais au xviii.e siècle. Krantz—Le pessimisme de Leopardi. Variétés (H. Marion—Le nouveau programme de philosophie). Analyses et Comptes-rendus. Rev. des Période. No. 11. H. Spencer—Les institutions politiques : I. Préliminaires. Ch. Richet—Du somnambulisme provoqué (fin). Th. Ribot—Les désordres partiels de la mémoire. P. Tannery—L'éducation platonicienne. Analyses, &c. Rev. des Période. No. 12. L. Liard—La méthode et la mathématique universelle de Descartes. G. Compayré—La folie chez l'enfant. H. Spencer—II. De l'organisation politique en général. Notes et Discussions (J. Delboeuf—Sur la fusion des sensations semblables). Analyses, &c. Notices bibliographiques. Rev. des Période.

La Critique Philosophique.—IXme Année, Nos. 33-45. W. James—Le sentiment de l'effort (34-6, 39-41, 45). C. Renouvier—Que faut-il entendre par des limites de la liberté morale ? (37) ; Politique et socialisme : I. La question du progrès (39) ; II. La question du progrès : Herder (43) ; III. La question du progrès : Kant (44). Anonymous—Le matérialisme par rapport à la liberté et à la morale (35) ; Le matérialisme par rapport à la réligion et à l'idéal (41) ; Le jugement d'Albert Lange sur le christianisme (42), sur la question du progrès et les doctrines des économistes (45) ; Un discours sur le prejugé (44).

La Filosofia delle Scuole Italiane.—Vol. XXII. Disp. 1. P. L. Cecchi—La storia della cultura et le scienze filosofiche a' tempi nostri. T. Mamiani—Sulla psicologia e la critica della conoscenza : terza lettera al prof. S. Turbiglio. M. Panizza—Antropologia : la fisiologia del sistema nervosa nelle sue relazioni coi fatti psichici. Bibliografia, &c. Disp. 2. F. Tocco—Filosofia di Kant : l'analitica dei principii. T. Mamiani—Sulla psicologia, &c. : quarta ed ultima lettera, &c. A. Chiappelli—Del vero senso dell *αἰτία* nel *Filebo* platonico. Bibliografia, &c.

Zeitschrift für Philosophie, &c.—Bd. LXXVII., Heft 2. E. Pfleiderer—Kantischer Kriticismus u. englische Philosophie (II.). Hasbach—Die Beziehungen der Aesthetik Schopenhauer's zur Platonischen Aesthetik (Schluss). G. Runze—Kritische Darstellung der Geschichte des ontologischen Beweisfahrens seit Anselm (I.). Ergänzungsheft. F. Kern—Ueber Demokrit von Abdera u. die Anfänge der griechischen Moralphilosophie. Recensionen.

Zeitschrift für Völkerpsychologie u. Sprachwissenschaft.—Bd. XII., Heft 3. H. Steinthal—Die erzählenden Stücke im fünften Buche Mose. K. Haberland—Die Sitte des Steinwerfens u. der Bildung des Steinhaufens. O. Flügel—Ueber die Entwickelung der sittlichen Ideen (Forts.). Beurtheilung.

Vierteljahrsschrift für Wissenschaftliche Philosophie.—Bd. IV., Heft 4. J. Jacobson—Ueber physische Geometrie. F. Tönnies—Anmerkungen über die Philosophie des Hobbes (III.). C. Sigwart—Logische Fragen : Ein Versuch zür Verständigung (I.). Recensionen. Berichtigung von W. Schuppe. Selbstanzeigen, &c.

Other Books, &c., received : W. Stanley Jevons, *Studies in Deductive Logic*, London (Macmillan), pp. 304 (See Mind XX. 589) ; M. W. Macdowall—W. S. W. Anson (after W. Wägner), *Asgard and the Gods*, London, (Swan Sonnenschein & Allen), pp. 326 ; Anonymous, *Thoughts on Theism, &c.* (8th Thousand, Revised and Enlarged), London (Trübner), pp. 80 ; C. S. Peirce, *On the Algebra of Logic*, I. (Reprinted from the *American Journal of Mathematics*, Vol. III.), pp. 57 ; J. Steinfort Kedney, *The Beautiful and the Sublime*, New York (Putnam), pp. 214 ; E. Swedenborg, *Ontology*, trans. by P. B. Cabell, Philadelphia (Lippincott), pp. 40 ; M. Panizza, *La Fisiologia del Sistema Nervoso nelle sue relazioni coi Fatti Psichici*, (2nd Ed.), Roma (Manzoni), pp. 258.

No. 22.] [April, 1881.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—MONISM.

MOST readers of MIND will remember the late Professor Clifford's brilliant paper "On the Nature of Things-in-themselves" (No. IX.). At the time that paper was first published, I was struck with some difficulties in the argument, which I did not subsequently see noticed in any of the reviews of its author's collected essays. The main reason why I only now venture to put them forward is that I did not exactly know how far the theory had been taken seriously: it seemed at any rate to have excited curiously little attention, for a doctrine which, if right, would be so neatly and exclusively right, and if wrong, should apparently be susceptible of easy and precise confutation. A Note in the January number of this journal, however, showed that others have long been occupied with the idea, and believe it capable of great development. And in addition to this, the tone of some recent criticism on the subject of Spinoza suggested certain more general difficulties in the whole position of dogmatic Monism, which might, I thought, gain in force from comparison with those inherent in Clifford's peculiar form of it. A very few words of introduction will serve to indicate the way in which the problem presents itself to ordinary minds, and the point at which Clifford takes it up.

I imagine that the stages which the mind normally goes through, as regards the question of the existence of things external to the perceiving consciousness, are these.

The first stage is one which uninstructed persons scarcely ever, I think, get beyond: the unquestioning idea that the things they see would be somehow there, lying about in space, whether or not there had ever been any mind to perceive them; that when they are there, a substance, or a something, underlies their sensible qualities, and is quite external to the feeling in the percipient. Clifford's view on the other hand, is that the *externality* divined by uninstructed persons is simply the element of externality in the "social object," the conviction that the object is a real or possible object to other *minds* outside one's own. This view certainly does not agree with my experience, even as regards persons of good general education.

The next stage arrives, to most of those who pass beyond the first stage, when Idealism of the Berkeleyan type is first presented to them; and generally, I think, the first impression is that such Idealism is a flawless theory of existence. The more obvious difficulties—that we need an explanation why my feelings and yours often exactly correspond, *i.e.*, why we simultaneously perceive the same object; or again, that objects change in the absence of minds, *i.e.*, we find their qualities on successive occasions differing by amounts only to be reached (as our general knowledge of phenomena teaches us) by gradual steps, which steps have had no representative in consciousness and suggest therefore an unknown substance which is not mind—these difficulties, I say, may be logically met by Berkeley's hypothesis of an eternal and ubiquitous mind. But Idealism of this type seems often to be held in a vague and unphilosophical way by persons of poetical temperament, with whom the all-embracing mind is rather a notion congenial to their religious instincts, than perceived to be logically necessary to the scheme.

By far the most important stage, however, is reached when a person first realises that each feeling and thought is accompanied by definite movements of brain-substance.[1] (It will

[1] In the absence of any knowledge of brain, the same stage would be represented by the recognition of unvarying correspondence between mechanical and measurable facts, such as vibrations, and sensuous impressions or secondary qualities, such as those of colour and sound. But in these days of physiology, all the mechanical facts are at once realised as producing and running up to material changes in the brain; so that it is with this crowning point of the material side of the phenomenon that we naturally associate its sensory counterpart. And I cannot but think that this direct localisation of all the various mechanical counterparts of sensation in one organ, which everyone thinks of as a part of himself, and which has obviously had its own material development contemporaneously with the development of consciousness, though it does not logically alter the puzzle of the correspondence, tends to make it far more vividly realisable to those who have not technically studied philosophy.

save trouble to speak throughout as if these inmost nervous processes, which indubitably exist, could actually be perceived by an outside spectator.) As long as you and I were looking at the *same* object, and our parallel streams of feeling thus closely *resembled* each other, some hypothesis of action of mind on mind, or of both as reflections of God's mind, might possibly seem to account for the resemblance, without the supposition of an external non-mental reality. But when *you* watch the object, and *I* watch (as I may suppose myself to do) the movements of your brain, then each item of your impression of the object, each thing in *your* consciousness, will have a counterpart in an item of my impression of your brain, which will be a thing in *my* consciousness: that is, the series of your feelings will present an exact *parallelism*, without the slightest *resemblance*, to the series of my feelings. And the total difference of this parallelism of feelings *without* resemblance, from the parallelism *with* resemblance when we were both looking at the same object, suggests far more strongly than the latter alone did that the source of the parallelism is external to our two minds. The dawn of this notion I should call the dawn of a *philosophical* conception of a dualism in mind and matter, as opposed to the unphilosophical conception of externality described as the first stage. That is to say, your brain, with its movements corresponding to yet wholly unlike your feelings, is the sort of matter in respect of which that dualism first presents itself in our day as an urgent philosophical problem.

The attempts at transcending the dualism have of course made up a great part of the history of philosophy. They may be classified roughly under three heads. Either (1) mind and matter may be kept parallel, as sides or representations of some unity common to both: or (2) matter may be put behind mind: or (3) mind may be put behind matter. The actual divisions, however, are far more numerous. The *first* mode splits at once into three. Thus the unity may be made a *substance* of which thought and extension are attributes, as in the theory of Spinoza, which however has probably now no single literal adherent. Or the duality may be transcended, as in modern Phenomenalism, by regarding the two terms as aspects of the same *fact*, while rejecting any sort of absolute substance. Or, again, in the conception of the unity not as a substance but as a *process*, in which consciousness and phenomena alike consist in a mutual determination of subject and object, brought about through the one reality of Thought, we have the most fruitful modern form of Idealism. As thus defined, this last form of the first mode may really be equally considered a form of the *third;* though to English ears the third mode (as defined by

the putting of mind behind matter) rather suggests the older Idealism, which knows nothing of these mutual determinations, but makes the subject merely hold together a series of feelings. And it may be added that these Idealistic forms of Monism further agree in the *negative* characteristic that they neither of them recognise the existence and facts of *brain* as the kernel of the whole problem; they neither of them reduce the general problem of mind and matter to the particular problem of mind and brain, and thus their solutions, however valuable in other ways, leave the prime mystery unsolved. The *second* of the above three modes, on the other hand, the one which puts matter behind mind, has faced the facts of brain; but the doctrine founded on that recognition has been too crude to deserve the name of philosophy. Its crudest expression of all was the dictum that thought is a *secretion* of brain: and we find rather a softening of expression than an actual development of idea in the more recent phrase that thought is a *function* of brain; which would naturally imply that the relation is of a kind precisely similar to that which respiration bears to the lungs, or co-ordination of movements to the brain. What is meant by some of those who use the phrase is doubtless nothing more than the truth, that the movements of mind are correlated with nervous processes. But in that sense they might with equal accuracy, and less chance of misleading, call brain or rather brain-movements a function of thought: and at any rate their position has no claim to be called monistic; the name Dualism, apart from any dogmatic theory, having at least the advantage of keeping the real crux in view.[1]

[1] Mr. Spencer and Lewes must be certainly designated dualists, though the fundamental dualism in their case is other than that of matter and mind or of physical and psychical events. Mr. Spencer does indeed use the word in the latter sense, as conveniently descriptive of our experience, *e.g.*, when he says that we must "rest content with that duality of our symbols" (the physical and the psychical, Force and Feeling) "which our condition necessitates": but he still imagines that mental and neural process may really be "faces of the same thing," and his philosophical dualism lies deeper. His radical position as a realist is that "Being is fundamentally divisible into that which is present to us as mind" (and this cannot but include nervous processes, which are real or imagined objects in our mind just as much as any other phenomena) "and that which, lying outside of it, is not mind". We certainly seem justified in adding, not only not mind, but not even Mr. Spencer's unknown "substance of mind"; since the substance of mind could scarcely be identified with something "lying outside of mind". The above definition of realism seems thus necessarily to drive us to two unknowns, not the single unknown put forward as a bare possibility in § 63, and as a certainty in § 273, of the *Psychology;* but either way we equally get a duality, whether between two unknowns or between the known and the unknown. As regards Lewes, it is perhaps easier to show that he ought to have con-

We have still remaining, however, another form of the *third* mode; which, while agreeing with the second mode in its explicit recognition of the facts of brain, agrees with other forms of Idealism in putting mind or something of the nature of mind in the position of sole reality. It has lent itself to development at any rate to this extent, that it has surmounted some of the more obvious difficulties of Idealism, can be represented, in Clifford's words, as "a necessary consequence of recent advances in the theory of perception," and can be stated, as he has shown, with thoroughly scientific precision; his particular statement of it being, I should suppose, by far the most comprehensible and attractive that has yet appeared.

I come now to the argument itself. It is distinctly divisible into two parts. The main aim of the first part is to prove that every bit of what I call matter, even inorganic matter, is correlated with feelings, or rather with "those remoter elements which cannot even be felt, but of which the simplest feeling is built up," just as facts of that particular organic piece of matter which I perceive as your brain are correlated with that infinitely complex web of feelings which constitutes your mind; *i.e.*, that in a manner varying infinitely in complexity, but one in kind, all matter is correlated with "mind-stuff," just as the most highly organised matter that we know of is correlated with mind. The proof, admirably given, is briefly this: that I am obliged to infer *ejects*, feelings of yours, things out of my consciousness, in correspondence with certain sorts of matter (your brain); and as the line of ascent from inorganic matter to the highly organised matter of your brain is an unbroken one, there is no point in the ascent at which I am at liberty to *begin* to infer facts out of my consciousness, and therefore I must infer such facts, in the shape of mind-stuff of an extremely elementary kind, even at the bottom. This method of proof, I may

sidered himself a dualist than that he did so. Being far more confident than Mr. Spencer in his identification of "neural tremors" and feeling, and far less aware of a uniting and permanent something with which no correlation of neural tremors is possible, he is able to hold a large amount of monistic language: but, believing in an objective world which does not arise in consciousness, as including that world, objective to a subject, which does so arise, he equally with Mr. Spencer postulates an unknowable, in the face of which the Monism becomes impossible to maintain. For we cannot make the neural tremors a connecting link between the world which does not arise in consciousness and the world which does. The phenomena of nerve-matter, as presented or represented in a mind, must bear precisely the same relation (which, whatever it is, is not identity) to the including extra-phenomenal existence as do any other facts of perception. Mind and non-mind are thus left confronting one another, without their duality being the least affected by the notion of inclusion.

observe, exactly corresponds with what has been said above: that *brain* is the sort of *matter* in respect of which the opposition of mind and matter comes naturally to a philosophic crisis: it is from the observed correlation in this particular case that Clifford argues to every other case, and, starting thence, is led to credit all matter with having some mind-stuff belonging to it.

The aim of the second part of the paper is to prove that such mind-stuff, which in the first part "we have seen reason to think of as *going along with* the material object," *is* neither more nor less than the reality—not *a* reality but *the* reality—of the material object, represented in our minds as that object; in other words, that the universe consists of nothing but mind-stuff, some of which is, while some is not, woven into the complex form of minds. The words I have italicised will serve to mark at once the point in respect of which acceptance of the first part of the paper contains no ground for acceptance of the second. That every object implies an eject, that every object we perceive *has* mind-stuff *going along with* it, all who accept the earlier argument must admit. The second part confines *all* external reality to *this* external reality: and it is in the independent argument by which Clifford attempts to prove this latter point that my first difficulty lies.

He takes as an example a man looking at a candlestick, and finds in the situation four terms: (*a*) the candlestick, an object to me; (*b*) the "cerebral image" of the candlestick (*i.e.*, the particular state of man's brain which is correlated with his perception of the candlestick), also a (supposed) object to me; (*c*) the man's perception of the candlestick, the "mental image"; (*d*) the external reality to which this perception corresponds. These are disposed in the following proportion:—

(1) The external reality:
(2) The man's perception of the candlestick::
(3) The candlestick as object to me:
(4) The man's brain as object to me.

He then proceeds to say:—"Now the candlestick and the cerebral image are both matter; they are made of the same stuff. Therefore the external reality is made of the same stuff as the man's perception or mental image, that is, it is made of mind-stuff." The perception, he adds, imperfectly represents the external reality, as the particular affection of brain-matter imperfectly represents, while corresponding point for point with, the phenomenal candlestick.

Now let us substitute, in terms (2) and (4) of the above proportion, *my* perception of the candlestick and *my* brain as object to me, for the *man's* perception and the *man's* brain. The *primâ*

facie objection to this substitution, in that I cannot at the same moment have the candlestick and my brain as an object, has no real validity. Practically, of course, I can no more examine the man's molecular processes than I can my own: but as I know they go on, and could be fully described and delineated were the physical means of examination adequate, I am at liberty to suppose myself witnessing them in the case of his brain; and as regards my own, nothing more is wanted than that, since the candlestick itself and my brain as I watch it cannot even be supposed to be objects to me simultaneously, my brain in that condition shall be an object subsequently represented to me, *e.g.*, by accurate descriptions and diagrams. So the proportion will become:—

(1) The external reality:
(2) My perception of the candlestick : :
(3) The candlestick as object to me:
(4) My brain as object to me.

But (2) and (3) are now identical; so that the neatness of making out the two first terms to be of one kind of stuff, and the two last of another, is found to have depended on the mere artifice of imagining two people to be concerned instead of one.[1]

But examining further into what is implied in the proportion, we find more than this to complain of. The things in terms

[1] Clifford has himself turned the third person into the first, apparently without noticing the effect on his argument. He then orders and words thus:—

The physical configuration of my cerebral image of the object:
The physical configuration of the object: :
My perception of the object (the object regarded as complex of my feelings):
The thing-in-itself.

Here the first term (which in the former case was the fourth, the order having been inverted) = My brain as object to me; and the second term (which in the former case was the third) = The candlestick as object to me; so that again the second and third terms are identical, as in the proportion in the text. The wording, and especially the clause between brackets, tend greatly to conceal this fact: but a moment's thought makes it clear that the "physical configuration of the object" is my perception of it, including all the items of impression of which that perception is made up; and the "complex of my feelings" is merely the complex of these same items. The latter phrase unfortunately suggests, beyond the mere perception of the object, the various ideas and associations which may be connected with that particular object, and hence gets an unwarrantable appearance of meaning something *different* from the "physical configuration". The existence of such ideas and associations is clearly quite irrelevant to the argument; it is just a chance of my individual experience; and I may substitute for the candlestick an object perceived for the first time, in connexion with which I had no previous ideas and associations.

(3) and (4) are *interdependent:* for whatever the mode of relation may be, we have no evidence that perception of an object can take place without corresponding brain-affections. Carrying then this interdependence with terms (1) and (2), I have to say that the *it*, the external reality with which I can never come in contact, is dependent on my possible perception of it; and also that my mind depends for a mode of its being (for my perception of objects is a mode of being of my mind) on that whose essential character it is to be for ever outside it. And the question then occurs how, *quâ* mind-stuff, I could ever become aware of *its* existence?

Clifford's answer is that *it* is *represented* in my mind. The word must not conceal the fact, which the proportion makes evident, that mind-stuff is made to act on mind-stuff as object acts on object, *e.g.*, as candlestick acts on brain-matter. Now object can *act on* object, or (in the ordinary phraseology) the presence of the candlestick *causes* certain affections of my brain, because both candlestick and brain belong to the phenomenal or objective order, *i.e.*, to an order of things which are *comprisable in* my single mind, and among which I find universal relations of sequence and coexistence, conveniently expressed by words like *cause* and *law*. And the stretch of imagination to conceiving similar relations as existing between my mind and a reality *external to* my mind is, of course, a vast one whatever that reality may be, and is disguised but not diminished by calling the mode of relation or action *representation*. But the view which refuses to what is "represented" as matter any other reality than that of mind-stuff introduces a difficulty *wholly of its own*. For suppose all matter to become highly organised, and by a parallel process all mind-stuff to become woven into minds (this being obviously a quite allowable hypothesis, since the validity of Clifford's argument does not the least depend on whether some of the mind-stuff in the universe does or does not remain in an elementary condition); or if it be thought simpler, imagine that the amount of reality in the universe is reduced to two minds. Each of these then is represented in the other as a material brain, an object of which we may suppose them (as we have supposed ourselves throughout) to have complete means of perception. But as a mind, at any rate according to Clifford's view of it, *is* its contents or perceptions for the time being, each of these perceiving minds, according to him, would *be* a material representation of the other: therefore each would *be* a material representation of a material representation of itself. But to call this a reality is surely to try to get visible content into two mirrors facing one another in empty space; or, on the supposition of a multitude of such minds, into a universe of mirrors.

And though this objection can be more simply stated on the above supposition that no mind-stuff is supposed to remain in the uncombined and elementary condition, but that all there is is fitted together into the texture of perceiving minds, yet when the objection has been once granted on this supposition, it is easily seen to be equally applicable to a universe in the condition Clifford describes. For by the undoing of some of the superfluous minds we have imagined, and the reducing of their elements of feeling to the uncombined state, by the withdrawal, that is, of their power to *represent*, we should clearly not be endowing them with any additional reality or power of *being represented:* to destroy them as mirrors cannot be made to give them the necessary opacity of objects, without reinstating about as marked a distinction between mind and matter as the old one which Clifford is anxious to transcend.

This difficulty of getting objective content into the universe shows itself equally strongly in a portion of Clifford's paper which has not yet been mentioned, his doctrine of the gradual development of conscious minds through the interweaving of elements of mind-stuff. On his theory, a single unit of mind-stuff is a thing-in-itself: it would be equally real were there nothing besides itself in existence; since for that which is far too elementary to perceive objects, it could not matter that there were none to perceive. As the units gradually combine, however, there result minds, *i.e.*, existences which cannot be conceived without objects; and the puzzle is to get, out of a universe of mind-stuff units, the means of identifying or connecting the process of independent combination of some of them into minds in which objects are an essential part, with the representation therein of others, which do not enter into the combination, as these objects. For simplicity's sake, let us say that a mind results from the interweaving of elements A, B, and C, and let D stand for external bits of mind-stuff. Now a mind is not first made and then provided with perceptive contents; the process of formation is a process of getting such contents, a process of developing perception of objects. Thus Clifford's interweaving of A, B, and C, things-in-themselves wholly independent of D, must yet depend throughout on the existence of D, and the product is not merely a means of representing, but an actual representation of, this external existence; that is, things which have no relation to a reality outside them can only combine in virtue of that reality, and in combining become that relation. In other words, from the piling together of units which for reflecting purposes are so many lumps of lamp-black, there gradually results not only a mirror, but a mirror which reflects the wall on which it hangs.

It is worth remarking how utterly different is the difficulty here from that involved in the simultaneous development of nerve-matter and consciousness. In that simultaneous development, however inexplicable it may be, we have at any rate an interdependence of one definite order of events with another definite order of events. In Clifford's universe we have an order of events, the interweaving of mind-stuff units, depending on something which is not an order of events at all—a progressive establishment of relations made possible through, and issuing in a representation of, relationless elements described by him as far simpler than the simplest feeling, and stationary therefore in the same proportion.

My difficulties so far have been concerned with the *object*, both in itself and in its relation to the gradual formation of minds. But Clifford's account of the *subject* seems open, on its own account, to equally grave objections. He considers that the sense of a uniting personality is not given in the actual moment of feeling, but in subsequent reflection; and "consists in the power of establishing a certain connexion between the memories of any two feelings which we had at the same instant". At the instant, a feeling exists *an und für sich*, and not as *my* feeling: "but when, on reflection, I remember it as my feeling, there comes up not merely a faint repetition of the feeling, but inextricably connected with it a whole set of connexions with the general stream of my consciousness"; and this memory again, so far as it is itself a feeling, is absolute, *Ding-an-sich*. "The feeling of personality, then, is a certain feeling of connexion between faint images of past feelings"; personality is "the property of the stream of feelings that part of it consists of links binding together faint reproductions of previous parts".

The metaphor of the complex stream, or of interlacing strands, is convenient; but the true metaphor for a combination of elements each of which is a *Ding-an-sich* must surely be a rope of sand. All the phrases used to describe the mode of complication lie open to Prof. Green's pitiless indictment of the modern empirical psychology, in *assuming* the unifying consciousness which they profess to account for. How can I remember anything as *my* feeling, in the absence of a unity which is neither my past nor my present state, but which by its persistence gives a ground for their relation? Does not the very word *remember* express the whole vital difference between a *feeling* and the *fact* that *I* had a feeling? Again, this unity certainly does consist partly in "the power of establishing a certain connexion" between the memories of simultaneous feelings; but how is this connexion to be got out of the separate

feelings which it connects? Still more, how is it possible to call such a link itself a feeling, a member of a stream of feelings? How can the fact of a relation be also one of the terms to be related?[1]

And this difficulty of getting a unified consciousness, which consists in the perception of a world of facts or relations, from any manipulation whatever of unrelated feelings, naturally suggests a reconsideration of the argument which attributed the elements of feeling even to inorganic matter, on the assumption of the continuity of simple feeling with developed consciousness. The argument, it will be remembered, was, that I find a continuity in matter from the elaborate combinations in your brain, in association with which I know that ejects or facts out of my consciousness exist, down to the simplest inorganic forms; when then I trace the chain of matter upwards, it seems impossible to say at any particular point, "Here ejects begin; here I may begin to assume the existence of facts out of my consciousness, in association with the matter which is an object in my consciousness"; and the alternative is to assume a parallel continuity of ejects in association with all matter down to its simplest forms. This argument from continuity certainly appears strong; though the attribution of reality to feelings, or elements of feeling, which are out of relation to a conscious subject, and are not determined by even so elementary a relation as that of sequence, is susceptible of very effective attack. But the continuity, if it exists, is only of things *quâ* ejects, of things as determined solely by the fact of being out of my consciousness: and the quality of ejectivity, common to the "mind-stuff" elements of a stone and to the mind correlated with your brain,[2] clearly need not imply the possibility of a combination of one into the other which Clifford has assumed. We might therefore grant the stone its ejectivity, without granting that "reason, intelligence, and volition are properties

[1] A similar objection might of course be urged from the side of brain; the perception of brain-processes being as dependent on a persistent subject as any other order of facts. A less obvious but equally valid argument is this: that such brain-movements as are correlated with feelings would not be thought of as a unity or a complex at all, except through a latent presupposition of that unity of consciousness which the correlated feelings are supposed to constitute. I could as much get the unity of complex interweaving from the movements of motes in a sunbeam as from the mere juxtaposition, in the space of your brain, of a number of separate occurrences, sequent on a number of separate sorts of external stimuli.

[2] If I compare the external reality of the stone not with your mind but with mine, even this common quality of ejectivity disappears, and I am bidden to call "mind-stuff" that of which not a single quality of mind, positive or negative, can be predicated.

of a complex which is made up of elements themselves not rational, not intelligent, not conscious". But we should then be leaving the cardinal problem of consciousness just what it has always been, and totally untouched by Clifford's theory. Somewhere in the chain, as he admits, consciousness appears for the first time: the evidence is too strong to admit of *this* being carried down to the bottom: and to say at any particular point, "Here consciousness, *i.e.*, a sense of relations, begins" is only rendered less startling than to say, "Here ejects begin," by the assumption of the continuity of one with the other; the assumption, that is, of relations set up by and among things of which the primary hypothesis is that they are excluded from relations. Nor can the difficulty be in any way evaded by dwelling on the *gradualness* of the development of consciousness. The very first time that any creature perceived a change from one feeling to another, an event had occurred which is as strong an argument against Clifford's account of mind-formation as any that could be brought from the mental workings of a Shakespeare or a Newton.

The question here discussed is, in Clifford's words, "one in which it is peculiarly difficult to make out precisely what another man means, and even what one means oneself". Nevertheless his exposition is so characteristically lucid that it is difficult to imagine one has mistaken his meaning: and the very fact that not a tithe of the ingenuity that went to the propounding of the doctrine is necessary to the discovery of its flaws is, I think, suggestive in relation to the whole subject of Monism, in respect, at any rate, of its profession to face the brain-difficulty. From its earliest appearance in the system of Spinoza, down to this latest and most plausible shape which it has received from an eminent man of science, such Monism has had the air of being *par excellence* the *scientific* theory of the universe: and it is the emphasis which has been given to this notion in recent criticisms of the earlier form of the doctrine, that led me back to the difficulties I had found in the later one, and to a reconsideration of the general validity of the claim. There is not wanting, however, a more special connexion between these two particular aspects of the Protean doctrine, amounting indeed, according to these recent views, to a vital affinity: for Mr. Pollock, in his truly admirable work on Spinoza, has indicated the mind-stuff theory as really latent in Spinoza's system, and as what Spinoza himself would have arrived at, "if he had not been unconsciously haunted by a remnant of Cartesian dualism". And this position may be first briefly examined.

One point of identity must certainly be conceded: Spinoza

does indisputably conceive of something of the nature of mind as going along with all extended matter. But this piece of agreement cannot annul other points of the system which seem fatal to that "latent idealism" which Mr. Pollock extracts from it. This "latent idealism," which, once established, is enabled by the above positive conception to take a mind-stuff form,[1] is itself arrived at by a negative route. In some admirably written pages, Mr. Pollock proves that all Spinoza's attributes except Thought are superfluous; but instead of treating this as a refutation of Spinoza, he modestly insists on giving Spinoza the potential credit of the refutation. The proof is unanswerable; and we may amuse ourselves with supposing that, had Spinoza been one of our contemporaries, he would have appreciated, and might even himself have supplied, the argument. But such suppositions can hardly be seriously read back into the philosophy of a past age. We readily grant that, if anyone is born into a philosophical epoch which is not dominated by Cartesian dualism, he runs a good chance of not being haunted thereby: but to speculate what Spinoza's line of theory would in such a case have been seems rather like speculating what sort of person one would be oneself if one had had some one else's ancestry. The data are too vague and too inextricably intermixed: it is always a little too easy to take the particular elements in a philosopher which can be seen to lead to a consistent development, and to ascribe to these a central position in his mind, of

[1] In the course of his statement of the mind-stuff theory, Mr. Pollock uses one argument not used by Clifford, and worthy of notice as suggesting an objection which will reappear further on, that science and metaphysics are not quite the same thing. He argues that the unknowable substratum of objects must be of the nature of mind on the following ground:—that there is one peculiar kind of unknowable which *is* undoubtedly of that nature, *viz.*, other peoples' minds (the existence of which is for each of us a matter of inference, not of immediate knowledge), and that it is unscientific needlessly to multiply causes and conditions; so that this recognised mediately-known sort of unknowable may and must do duty for the reality, also unknowable, divined as underlying phenomena. I do not know that any direct or precise argument can be brought against the validity of this reasoning: but I cannot but think that we should be foisting some element of the known into the unknowable even in the act of supposing it valid. The hypothesis of an unknowable non-mental substratum of matter may be attackable in other ways; but it goes too deep to be seriously affected by a likelihood of parsimony in unknowables. The argument of parsimony has its origin and its force in our experience of *physical* conditions and *efficient* causes on the plane of the knowable, where the conditions are modifiable and the superfluous causes get eliminated by degrees: it can hardly seem convincing against a hypothesis, *suggested on independent grounds*, of a mode of being which, as absolutely unmodifiable and unknowable, is not more likely than unlikely to be identical in substance with another unknowable.

which he himself gives no indication. At any rate, when we go to Spinoza's actually stated scheme, with all its patient elaboration of construction and undoubting confidence of tone, we find elements, impossible to treat as accidents or excrescences, which are stubbornly inconsistent with the position represented by Mr. Pollock as almost within his grasp; so much so, that that position (if I may hazard a guess) would have caused him quite as much surprise as any other modern form of Monism; so much so, I may even say, as to preclude any confidence that, had his life been miraculously preserved, he would now be in agreement with Clifford rather than with Mr. Spencer.

Thus, in the very proof to which I have referred, of the superfluity of all the attributes except Thought, Mr. Pollock necessarily points out the entire mutual independence of Spinoza's attributes: and this obviously involves the conclusion that Extension could exist (it is for Spinoza to say in what manner) if the independent attribute of Thought were eliminated, just as much as it involves Mr. Pollock's conclusion that Thought (including the perception of things as extended) could exist if the independent attribute of Extension were eliminated. In Mr. Pollock's own words, Spinoza "would never have admitted that the material world is extended only in respect of our perception". The same contradiction of Idealism reappears in the consideration of God. Though Spinoza's God is a thinking being who can think infinitely in infinite ways, Mr. Pollock has expressly remarked how he is "not exclusively or eminently a thinking being," any more than man is, who is corporeal and extended just as much as thinking. Everywhere there is the same irreducible and independent parallelism of extension and thought, of the untenability of which Mr. Pollock himself would have convinced me, had I needed convincing: my difference from him lies simply in holding that the parallelism must be reckoned as belonging not to the accidents but to the essence of Spinoza's philosophising; that the flaw, however much at the time inevitable, is too radical for one to judge of how Spinoza's mind would have worked, or what his system would have been, without it.

Nor can I follow Mr. Pollock in crediting Spinoza with any sort of anticipation of modern Idealism even in the single respect of rejecting the unknowable. Mr. Pollock's own view is that "it amounts to a contradiction in terms to speak of 'unknowable existence' or 'unknowable reality' in an absolute sense," and that existence must be identified with "the possibility of being known and perceived"; and he is fain to find this view in his favourite philosopher, of whom he says that "there can hardly be a reasonable doubt that for him to exist

and to be intelligible were all one". For Spinoza to exist and to be intelligible have not always been found all one by his readers; but, flippancy apart, while the idea in Mr. Pollock's mind is perfectly clear, in Spinoza's mind it was, even if present, mixed up with what amount to total contradictions of itself: and this fact has not, I think, been exactly brought out in Mr. Pollock's very felicitous account of the particular difficulty in the system with which it is connected. The difficulty is the old one propounded by Tschirnhausen. The attributes being infinite in number, and an attribute being "that which the understanding perceives concerning substance," how is it that *our* understanding perceives (beyond itself) only *one* of these attributes, *viz.*, extension. Spinoza's answer, as simplified by Mr. Pollock, is that "every mode of every attribute other than thought has a several mind or modification of thought to itself," so that "the modes of thought" (*i.e.*, in this connexion not minds, but sorts of mind, called here by Spinoza infinite ideas) "are numerically equal to the modes of all the other attributes together". But Spinoza says more than this: he says, and the consistency of his system demands that he shall say, that these modes of thought other than our mode or mind, and corresponding to other attributes than extension, "have severally no connexion among themselves". In other words, these various "modes of thought" are as different and unconnected among themselves as the disparate and self-complete attributes correlated with them; they are not related in the least as my thought to your thought; and their contents are unable, not only actually but essentially unable, to exist in our mind, standing to it in a totally different relation, *e.g.*, from that held by the world of sound to a man born deaf.[1] Are we then justified in calling them *thought*, merely in order that *esse* may still verbally = *percipi*? Our thought, from its simplest to its most complex manifestations, is a connected whole of a certain kind: to postulate something else of another kind and call it thought, for the sake of accommodating the unknowable with a possibility of being known, is merely to shift the bugbear of unknowability from the object to the subject. The difficulty of saying with Mr. Spencer that an unknowable object exists, cannot be evaded by saying that the object in

[1] It is perfectly true, as Mr. Pollock says, that "we can conceive, though not imagine, relations of thought to other worlds, analogous to those which we perceive between thought and extension". Such another world of unimaginable objects might be exemplified by the world of sound in relation to the thought of the deaf man. But it seems to me even more impossible to reduce what Spinoza has actually said to anything like this than to make out that his explanation, were this its meaning, would be consistent or adequate.

question, unknowable to us, is knowable by a "knowledge" which has no relation to what we call knowledge, by that therefore of which all we have a right to say is that it does *not* know. Even Mr. Pollock seems to consider "an intelligence other than ours" (p. 167), and "consciousness not analogous to human consciousness" (p. 352), as legitimate expressions: but that they should seem legitimate in the sense which Spinoza's theory demands is simply owing to an ambiguity of language. We are familiar with the idea of an intelligence similar to but indefinitely transcending our own in power and knowledge: *percipi* may be quite fairly translated "possibility of being known and perceived," in a way which allows the North Pole, or even the molecular movements in the centre of Sirius, to be included in it just as much as the paper I am writing on. But the sense is totally changed if the supposed "possibility" is not just an increase in the content and scope of those affections which we call perceiving and knowing, but involves the assumption of affections, still *called* perceiving and knowing, which have no relation to *our* affections; and only through this tacit passage from an intelligence *other than* ours in the sense that Newton's was other than mine, to a verbal figment which professes to retain in some way the substance of knowing while dispensing with all its predicates, is it possible to claim for Spinoza the credit of discarding the unknowable. Such an abuse of words would be quite parallel to the familiar moral fallacy of calling God good, while refusing to apply to his supposed actions and purposes the criteria through which alone the idea of goodness has been established.

So much, then, for the relation of Spinoza to his putative metaphysical offspring; as regards which, so far as I may have differed from Mr. Pollock, I have done so by the aid of his own admirably candid and lucid exposition. As regards the more general question of the scientific character of Monism, as represented in Spinoza, I feel that the difference lies deeper. Mr. Pollock's treatment of this topic seems to me, indeed, almost the only real blemish in his brilliant work; and the same remark applies to the review of that work by one, at least, of its ablest critics, Mr. Leslie Stephen. Mr. Pollock sums up his account of Spinoza's monistic theory, in its bearings on the problem of the connexion of brain and mind, as follows:—

"Not that his metaphysical principles are in themselves unable to furnish means of dealing with the problem: on the contrary they very much simplify it. The puzzle of sensation, when considered in the usual way, is that there is a relation between the heterogeneous terms of consciousness and motion. Something happens in my optic nerves, physiology may or may not be able to say exactly what, and thereupon I see. Can my sensation of sight be said to resemble the thing seen, or the images on my two

retinæ, or the motions in the optic nerves, and if so, in what sense? These questions are essentially insoluble on the common supposition that body and mind are distinct substances or orders in nature. If body and mind are really the same thing, the knot is cut, or rather vanishes. The problem of making a connexion between the inner and the outer series of phenomena becomes a purely scientific one. It is no longer a metaphysical paradox, but the combination of two methods of observing the same facts, or facts belonging to the same order; and the science of physiological psychology can justify itself on philosophical grounds, besides making good its claims by the practical test of results." On Spinoza's principles, he says, "to ask why mind should correspond with matter is like asking why the convexity of a curve should answer to the concavity".

On which Mr. Stephen remarks:—

"If Spinoza's way of putting this is not satisfactory, . . , he grasps the true difficulty and understands the conditions of a satisfactory answer"; and adds, "He strikingly anticipated the general tendency of modern thought in regard to a problem which we must admit to be still unsolved. . . . Till language has been brought into conformity with philosophic thought, all attempts to express the undiluted truth must be more or less failures."

Such language seems to confound the aims, methods, and possibilities of science with those of metaphysics. The unity and continuity of nature, which it was Spinoza's great merit to have grasped, is a unity and continuity of things in my consciousness, objective facts, in the ever-advancing knowledge of the relations of which, the conception of unity and continuity is ever becoming more full and complete. But if I had been placed in chaos, with powers the same in kind as I actually possess, (*i.e.*, the power of knowing an objective order,) but infinitely increased in degree, so that I could have deduced the whole chain of evolution down to the formation of brains, I could have had not the faintest prophetic inkling of the dawn and development of any consciousness external to my own. If at this moment I knew intimately every idea and feeling of every mind in existence, and every inmost and minutest nervous process which accompanied each, my knowledge of the infinite number of facts in which the parallelism was displayed would not go a single step towards establishing for my mind a unity or continuity between what I *can* or *might* perceive, the nervous processes in other people's brains, and what I can *never* perceive, the accompanying feelings in other people's minds: or, to put it more generally, if such minute knowledge became universal, it would not go a step towards establishing a unity or continuity between physical facts, perception of which can be shared with all the world, and psychical facts which are essentially unshareable. Even putting other minds aside, the sole imaginary case in which I could get unity between my own perceptions and my own brain-movements, would be the barren one of watching the actual brain-movements

that accompanied the act in which they themselves were watched.

The issue is really so simple that an attempt to show that the problem is solved or ultimately soluble is liable to suspicion just in proportion as it is complicated and hard to follow. No conceivable process or progress of thought can get behind the fact that whether two things, known as distinct, (such as brain-movement on the one hand and any other fact, objective or ejective, on the other) can be further known to be sides or aspects of one thing, depends on whether the knower's position relatively to them can be altered. And in the present case, the *multiplication* of these pairs of distinct though correlated facts, is not such as brings with it any possibility of that *alteration of conditions* which is so prime a factor of our experimental knowledge: it is a mere blank and unmodifiable parallelism of lines whose parallelism and consequent inability to meet is their sole knowable relation. The difficulty therefore is not met but masked by the convenient words *aspects* and *sides;* since these receive their only meaning from their application to perceived objects, with regard to which position *can* be altered and conditions variously modified. And the *curve* simile, so far from being helpful or approximative, is radically delusive. For if we take a concrete case, where it is possible to regard the convexity and concavity of a curve as two distinct but corresponding things, *e.g.*, the surface of a rounded body accurately enclosed in a removable covering, the convexity and concavity present the closest *resemblance* in several respects: thus the arcs subtending their corresponding portions are identical, and the gradation of curvature of each at each corresponding point is identical. This illustration therefore, and any analogous one, must necessarily suggest just that essential resemblance of the corresponding terms, the entire absence of which is the distinguishing characteristic of the case supposed to be illustrated.

Yet it seems, according to Mr. Pollock, that one need only state body and mind to be the same thing, or aspects of the same thing, to have the right to consider that the problem has become practical instead of theoretic, and that the *registration*, not the *existence*, of the correspondences of brain and mind is henceforth the only thing we need exercise ourselves about. A problem is doubtless simplified by ignoring all that makes it problematic. The assumption of that which we can never know may leave us with delightfully unpuzzled minds for recording that which we have never doubted: but that is the only sense in which it could "furnish means of dealing" with anything. If then, in saying that "physiological psychology can justify itself on philosophical grounds," Mr. Pollock means that the accurate observa-

tion of the synchronous changes of nerve-matter and consciousness is more *justified* as an intelligent pursuit by a "philosophical" and unprovable assumption put behind it, we reply that it stands as little in need of any such justification as the study of chemistry or botany; if he means that attention to that branch of experience *justifies* itself as tending to confirm a monistic solution of the philosophical difficulty, we reply that experience of two orders can never come any nearer to being experience of one. If in saying that Spinoza "understands the conditions of a satisfactory answer," that "the problem is *still* unsolved," and that the truth cannot be expressed "*till* language has been brought into conformity with philosophic thought," Mr. Stephen means that the difficulty is being gradually sapped, that the problem is one admitting of approximative solutions, he surely fails to recognise that all materials for approximative solutions are wanting; that the riddle is not one in respect of which facts can be discovered and evidence amassed, but remains perfectly isolated and ultimate, without a single avenue leading to it or from it. For psychological observation, for tracing the evolution of consciousness on the one hand and of the physical organism on the other, ample materials exist: but psychology and evolution, if every fact relating to both were at this moment known, would not bring us an inch nearer to adjusting the claims of Monism and Dualism. Spinoza failed, not because he was the rough-hewer of a comprehensive idea which needed the labours of many other workers for its perfect elaboration, but because his idea contained no sort of workable stuff. To extol his metaphysical position as an extension of the view of the unity of nature, is to extol it for precisely that wherein its weakness is manifested, the effort namely to get from a doctrine whose whole force lies in experience a momentum which should carry it beyond the confines of experience.

It may be noted, moreover, in passing, that Mr. Pollock seems to make rather too much of his text, both as to the extent of the discoverable connexions between physiology and psychology, and as to the bearings of those connexions on the latter science. *A propos* of Spinoza's firm grasp of a parallelism of complexity between body (Spinoza would now doubtless have said *brain*) and mind, he remarks that "there could not be a more distinct or positive declaration of the necessity that psychology, if it is to be a serious branch of scientific inquiry, shall go hand in hand with physiology, and verify its results, as far as possible, by physiological observation". It seems to me that Spinoza's own case is enough to refute the view as thus stated; for his numerous and admirable psychological observations certainly

demanded no physiological knowledge. A firm grasp of the general fact of the invariable correspondence between nervous and mental processes means something quite different from imagining that we know or ever can know the parallelism in detail, or that in this sense the studies of the two sets of things can "go hand in hand". Did every step in psychology depend on exact knowledge of physiological counterparts, psychology might have waited for ever: fortunately, however, there is nothing to prevent its being made an exact study on its own account, a possibility which we might safely affirm even were it not in course of being rapidly realised. Our knowledge of the physiological counterparts, on the other hand, is, and seems destined to remain, of a comparatively rough and rudimentary sort. The gist of the matter lies in ultimate nervous processes which are of course utterly beyond our reach; but putting molecular motions aside, the broadest facts, the most elementary functions of the various parts of the cerebrum and the part played by them in connexion with the simplest perceptions and volitions, are still matters of dispute; while even the most general physiological translations of psychological laws (*e.g.*, the limiting and differentiation of areas of nervous discharge, corresponding to increasing definiteness of perception), are rather reasonable hypotheses than results of experiment. Nor do I see how such principles, however interesting as matters of knowledge, can be truly said to "verify" or in any way affect the psychological facts which must necessarily be observed quite independently.

I am, of course, not charging either Mr. Pollock or Mr. Stephen with imagining Spinoza's form of Monism to be demonstrable or even probable: but they both seem to regard his attempt as in the right line, as containing a germ likely to fructify, and parallel with the ideas which draw ever fresh certainty and vitality from fresh experience. They both seem to class Monism as one of the instances—a Triton among the minnows, of course, but still belonging in kind to the instances—in which the unity of nature, if not yet absolutely established, at any rate ought to commend itself as a scientific truth to persons with clear heads and a sense of analogy: and they thus look on Spinoza's theory, however faulty in detail, as corresponding to the general tendency of modern scientific thought. I should have said, on the other hand, that modern scientific thought, in its cruder forms, had simply ignored metaphysics; and in its more intelligent forms, had clearly recognised that the radical distinction between brain and mind can as little be bridged over by the multiplication of correspondences as by the bold assumption of a common substance. And as among monistic systems Spinozism has

no superiority in the way of *connexion*, so neither has it any superiority in the way of *compatibility*, with the teachings of science. Pure Idealists and pure Phenomenalists may accept those teachings to the full; and if they leave the brain-and-mind riddle unanswered, it may be because they perceive "the conditions of a satisfactory answer" to be unattainable. So little is a "unity of nature" in metaphysical tendencies a scientific postulate. Indeed the only hope, a forlorn one as I have tried to show, of establishing a special claim for Spinoza seems to lie, after all, in definitely connecting him with the mind-stuff theory; which has a truly scientific character in its emphatic recognition of the essential distinction of object and eject, and of brain as the object at the centre of the difficulty; and which at any rate is remarkable as being at present the one form of Monism, dealing explicitly with brain as well as thought, which possibly might be claimed as answering to the prophecies hinted by Mr. Stephen, or as justifying us in feeling with Mr. Pollock that the time-honoured crux is henceforward reduced to scientific questions of physiological psychology. I was surprised therefore to find no more explicit mention of Clifford's attempt in that recent treatment of the monistic position in juxtaposition with which I have here presented it: for it at all events professes to do that to the doing of which Spinoza has been represented as pointing the way. But on the one hand, the questions with regard to it which have been here raised seem to need answering; and on the other hand, the fact (if it should so turn out) that they indicate flaws, is not more suggestive of the hopelessness of dogmatic Monism, than the consideration that this latest and most scientific form of it might really be equally claimed as a theory of *Dualism;* the admission of absolute existences below the level of consciousness seeming, as we saw, to reintroduce the old duality of knowable and unknowable under cover of the so-called mind-substance.

EDMUND GURNEY.

II.—M. RENOUVIER'S PHILOSOPHY.—PSYCHOLOGY.

DURING the Hegelian supremacy, it is said, the great question decisive of every man's position was—Are you Ontologist or Psychologist? The great corresponding question at present is—Are you Philosopher or Scientist, are you Metaphysician or Empiricist? The importance of M. Renouvier's system is, that it is a thorough-going system of Phenomenism, and yet is philosophical, larger than science, and metaphysical in that sense of

the term in which it is opposed at once to ontology and to empiricism. This was sufficiently shown in my former article (MIND XXI.), which carried us to the end of the *Logic*, the first of M. Renouvier's two fundamental works. We have now to deal with the second, the *Psychology*.[1]

After the analysis of the phenomena of consciousness for themselves, given in the *Logic*, comes naturally the examination of them in the living concrete form in which we experience them, namely, so grouped as to form the functions of conscious beings; and this examination is Psychology, which is the complement of the *Logic*, and that in two ways. First, the divisions of the *Psychology* are given by the categories of the *Logic*, the functions of conscious beings demarcated by the fundamental distinctions of the phenomena of consciousness. And secondly, Psychology is the first and most general of that group of philosophical sciences which the *Logic* concluded by establishing, sciences seated, as it were, astride the frontier of the seen and unseen worlds, and, in virtue of that double character, dealing with probabilities and beliefs suggested by man's moral and intellectual nature.

The *Psychology* accordingly falls into three Parts. The first coincides most closely with what is commonly understood by psychology, the examination of the functions of conscious living beings; the second treats of the problem of Certitude, and forms the bridge to the third and last, which examines Kant's three great problems, Immortality, Liberty, and God.

> "We will treat successively the universal data of human nature in relation to the different functions of consciousness in which they make their appearance, and for this purpose we will follow the guiding thread of the categories, going from the simplest and most abstract to the most complex, which are the most real. We shall next be able to treat the question of certitude, and then the nature and arrangement of the sciences. After which, returning to our most general object, we shall extend our view to the probable sphere open to man's development in the world, and to the physical and moral laws which govern his destiny." (I. 10.)

The passage from the *Logic* to the *Psychology* is formed by the consideration, that personality, which is the last of the nine Categories, is implied, in the concrete, as the condition of all the rest. The *Logic* gave us, in order of ascending complexity, the nine categories of Relation, Number, Position, Succession, Quality, Becoming, Causality, Final-causation, and Personality. When we turn to their concrete realisation in experience, we must begin with the last, since it is only in the representations of some given personal consciousness that the phenomena of this and all the categories are known to us.

[1] *Traité de Psychologie Rationnelle.* 2nd edition, 3 vols. Paris, 1875.

"Man, then, is a certain centre, a meeting point, of the categories, because they are, in him, the laws comprehending *(enveloppantes)* all that he knows or can know, and, from another point of view, because they comprehend him also by gathering together to form that eminently complex and special compound, which is the union of his body and his person." (I. 4.)

If we consider man under those relations only which belong to the categories of number, position, succession, change, with certain inherent qualities, but abstracting from sensibility, we get, as our object, man physical and organic. And this is the first division of the subject. (I. 5.)

If to these categories we join that of personality, in a given consciousness, and as a centre of experience, we have man sensitive, a something opposed to phenomena other than himself. This is the second division of the subject. *(Ib.)*

Now Causality and Final-causation are inseparably attached to Personality; and accordingly the addition of these gives us the final divisions of the subject:

"When in man, as a being self-represented to self, we envisage particularly act and cause conscious of itself, we get the will: man is will. When we envisage tendency and purposed end, we get emotion *(passion)*: man is emotion. When we envisage any of the personal functions as it were reflected by a kind of reduplication of consciousness, we get understanding and reason: man is intelligence. (I. 6.)

Supplementing this rough classification, taken from the first preliminary chapter, with later statements, we find the place of intelligence, which is here left somewhat uncertain, much more definitely marked. Reflective consciousness is the central point of the whole classification of functions, and divides them into two parts, a lower and an upper portion, the lower including (1) man physical and organic, (2) man as sensibility, in connexion with which are treated the laws of association, (3) man as intelligence, including reason, use of symbols or signs, and language. The upper portion contains (4) reflective consciousness, (5) man as emotion *(passion)*, (6) man as will; and the treatment of these subjects is followed by chapters on the decline or degradation of consciousness, on the relation between the higher and lower functions, on the relation between emotion and consciousness, and on the question of liberty, which concludes the first Part of the work.

Reflective consciousness, then, is the centre of the whole. At the beginning of the chapter which treats of it, we read as follows:

"The divisions which I have hitherto brought forward bear on laws which, while combined in man under the law of consciousness, are yet essentially characteristic of the not-self: relation, number, position, succession, becoming, quality. The functions which depend on these categories, namely, comparison, numeration, imagination, memory, trains of

thought, reason, have a common character, which is that of subordination of the representing to the represented element in the representations. From this point of view we may call them by a common name, that of *intelligence.*" (I. 215.)

Intelligence, then, when not incorporated with reflection, but considered *per se*, comes in last and highest of the lower functions of man, the higher being constituted by reflection and intelligence in union with emotion and volition.

"The sequel of the inquiry, enabling us to define the nature and bearing of the facts of emotion and force" [will] "in man, will show in what sense, and up to what point, the affective principle and the volitional principle are to be distinguished from one another and from intelligence. Admit these elements as logically irreducible, as our analysis of the categories has already shown, in a general way, that they are, and man will appear to us, from this point onwards, as a synthesis of three forms essential to the existence and laws of consciousness and its variations. To these we must join the forms of sensibility, a fourth necessary condition, inherent as a general rule in the production of phenomena of experience under the laws of extension, and united in human nature with the different organic and physical functions which make part of these phenomena." (I. 217.)

Appended to the first preliminary chapter are some "Observations," in which with equal force and subtilty M. Renouvier both expounds his own position and distinguishes it from that of two opposite psychological schools, opposite to him, and also to each other, and justifies its title of *Rational Psychology.* His own words will best explain his scope:

"The foregoing chapter defines the nature of a rational psychology, such as we can conceive it at the present day. Formerly this name designated a pretended science, founded on metaphysical *a prioris*, wherein people flattered themselves that they demonstrated apodictically the existence and the immortality of a separate soul. There men studied the *faculties of the soul*, as so many mysterious entities joined to a main entity. But the method which is really rational must fix its attention on psychical phenomena and the investigation of their laws. The powers of the soul are then nothing else than certain of these laws, that is to say, that series of phenomena, definite in kind, are bound to evolve themselves in time, in such manner as the laws express, under appropriate conditions." (I. 11.)

There we have his opposition to ontological psychology.

"Rational Psychology may rightly be called also empirical psychology, inasmuch as it moves by observation of the facts of consciousness. But it does not allow that this observation of facts can be emancipated from the principal laws constitutive of the observing mind. That which makes it rational is, that it does not separate the psychical facts from the forms of grouping them which are given in the categories." (I. 12.)

There we have his own middle position.

"There is a psychological doctrine which aims at absolute empiricism, and would like to *deduce*, not merely state as facts, such laws as those of space, time, and others not less irreducible. I have spoken of the associa-

tionist school on many occasions in the *Logic*. As it is after all impossible to undertake any mental analysis without supposing laws, or mental syntheses, previously given, the associationist school itself has necessarily taken a law as point of departure. It has chosen the law of association, or connexion and sequence of ideas, which appeared to it the most indispensable of all; and not wishing to *assume* others, as it must have done if it had distinguished various modes of association or grouping, it has assumed that a previous entirely empirical conjunction (*rapprochement*) and habit are the sole agents of all connexion in observed phenomena. Now this is an hypothesis for which the associationist school offers no direct justification, and which is contrary to the conditions of thought actually observable, that is to say, to the existence of laws inseparable from thought itself. It is attempted to justify the hypothesis *a posteriori*, by deducing these laws, and explaining their original formation; but then it is impossible to avoid petitions of principle, as I have shown in my criticism of Stuart Mill and Mr. Bain. But even with the aid of this illusory method the associationists have not made their reduction complete, as their system requires them to do. For instance, time, memory, and in fine the mind itself, offer an invincible resistance. Why it is so will be understood, if we reflect that the question is to demonstrate the origin of the laws constitutive of the mind, while basing the demonstration on connected phenomena, the connexion of which is intelligible only in the form of those very laws!" (I. 12, 13.)

There we have his opposition to the psychology of the associationists; and I do not know where the fundamental objection to their theory has been either more clearly stated or more powerfully urged.

Having thus obtained a general view of M. Renouvier's position, it is necessary before going farther, to inquire what is the validity of his mode of transition from the *Logic* to the *Psychology*, which we have seen consists in this, that the object-matter of the *Psychology* is the actual and concrete realisation, or exemplification, of the abstract categories of the *Logic*. I seem to myself to find a lacuna in M. Renouvier's theory here, which, owing to the critical point at which it occurs, is a serious one. It is this, that no account is given of the passage from the one general system of categories, embracing consciousness and existence at large, to the particular individual conscious beings who have partial and different perceptions of existence at large, and are the objects of psychology. The lacuna (if it be one) is covered from observation by an ambiguous phrase in the second sentence of the book:

"The categories are the general laws of representation. The only representation of which we can speak with assurance is the human. It is in it that the categories are given to us, as is also the matter of experience. The categories posit the forms of this matter, the rules of this experience." (I. 1.)

To call the categories laws of *human* representation is true so far as *kind* goes; when we speak of representation we mean

such representation as man's; and that is enough for general logic or metaphysic. But it does not necessarily imply a plurality of particular conscious beings. This is a fact which must be accounted for separately. A single universal consciousness would equally satisfy the requirement of being a realisation of the categories, and would equally be a *human* consciousness, though on a vast scale. We suddenly find ourselves, on opening the *Psychology*, in presence of individual particular consciousnesses; we have before us "a given consciousness, with a certain content of experience, the elements of which it combines" (I. 5), one consciousness generalised and representing all; and yet no account is given of how this plurality comes into the field. That surely is a lacuna.

It would be no answer to say, that plurality is found in the categories. So likewise are quality, number, limitation, &c., in short all the forms which are requisite for understanding objects when once they are given in perception or imagination. The question is, how there come to be more conscious centres of the categories than one; more realisations of them than one subjectively, when there is but one world represented objectively? The categories may perhaps be conceived as necessarily bound up with a living, personal, representing being. But what is there to show that this being is not an Absolute Mind?

There is only one way, in my opinion, of meeting this difficulty, and that is by avowing it; only one way of filling the lacuna, and that is by placing there a *distinction*, the distinction between nature and history, justifying it by metaphysical analysis. We then, at this point, frankly leave philosophy and enter upon science (though always under guidance of philosophical distinctions), in entering upon the subject of psychology. Unless we make this avowal, and draw this (or some equivalent) distinction, we shall inevitably find ourselves treating the *notions* of things as if they were the things themselves, and making those notions (in this instance the categories) into efficient conditions of the existence of the things. We shall have an *a priori* psychology founded on metaphysical laws, a psychology which would be inadmissible as science, even though the laws were true in metaphysic, which is not wholly the case with the categories, as I have in some measure shown in my former article.

M. Renouvier does not, in my opinion, escape this almost inevitable consequence; and it is shown by his application of the categories to determine the functions of consciousness in psychology. He lays great stress on this application. In speaking of the methods of psychology, in his chapter on reflective consciousness, he says:

"I have applied to the first categories this method of classification which I am surprised to find is new. Readers can judge whether it gives results unconstrained and well co-ordinated. It would not have escaped Kant, had it not been for the singular pre-occupation of mind which led that great man to admit the data of ordinary psychology at the very moment when he was aiming at subjecting the whole content of the mind to criticism. He believed he could obtain the categories by deduction, not perceiving that, in order to avoid positing as *a priori* facts those notions upon which all other notions depend, he was accepting other notions which had nothing but authority in their favour, and even the definition of which was extremely imperfect." (I. 214.)

Kant, I imagine, saw what M. Renouvier does not see, that over and above the forms in which consciousness worked, among which are the categories, there must be something working in those forms. The forms are one thing, the worker another; and the worker cannot be resolved into the forms alone, but is something concrete or empirical, a compound of form and matter. Again, even supposing M. Renouvier's categories to be the true ultimate forms of thought, they yet give no reason why some are applicable to particular cases, and others not. Granting they are applicable to the course of nature, still they give no explanation why that course takes its actual windings under them. There is a particular stream of events, the *history* of the world, to be accounted for. Causation of one thing by another is what science has to investigate, not the general applicability of forms of thought to all things.

The old psychology, rightly abandoned by M. Renouvier, saw this also. The soul and its faculties were efficient causes. The soul furnished at any rate a professing explanation of how consciousness arose in certain particular beings. The consciousness with which psychology deals is consciousness defined by its time, place, and conditions of existence, that is to say, in connexion with its organism. But the consciousness with which metaphysic and M. Renouvier's Logic deal, is consciousness defined by the objective world which is its counterpart and content. Without some theory of causation, that is, of the conditioning of particular things by one another, in order to their coming into or departure out of existence, psychology is no *science* at all, but a mere reflex of metaphysic. Causation is the feature which distinguishes psychology, as the first of the sciences, from metaphysic the condition of them all. If on the other hand we assume causation from the first, and begin with the facts of consciousness grouped as they are grouped in psychology, then we get no metaphysic at all, no philosophy properly speaking, but merely a *generalisation* of psychological laws: we get, not what M. Renouvier professes to give us, a Psychology based on General Logic, but a General Logic based on Psychology.

I am not charging M. Renouvier with ignoring this difference; he himself remarks at one place: "The knowledge of causes, such as is within our reach, is without value for philosophy". (I. 26.) Still less am I charging him with excluding cause from psychology, which he certainly does not, as will be evident from the very next point which falls to be considered. But my objection is, that he has nothing *in his theory* corresponding to these admitted facts, and that I call a lacuna.

At length then we may take M. Renouvier to be fairly launched. The transition from the *Logic* being accomplished, the *Psychology* begins. Here the first question which occurs, in the case of a psychologist who gives up as untenable the notion of a soul as entity, is this,—how he replaces it. Replacing the soul and its faculties by phenomenal states of consciousness, what is the relation in which he conceives these to stand to the organism? The soul and its faculties were regarded as exercising a real causative agency; does he conceive the states of consciousness, which he now makes the object of psychology in their stead, as doing so too? Does consciousness re-act on the organism? Is a state of consciousness ever a necessary link in the chain of events intervening between an impression received by the brain and the movement (in nerve or muscle) which follows it? Or, on the contrary, does he conceive that the states of consciousness, exercising no re-action, are never links in such a chain, but are merely the accompaniments and the evidence of processes in the organism which are physical in their whole extent, so far as their causation is concerned, notwithstanding that they are knowable and nameable only by means of their conscious accompaniments, as actions for instinctive or desired ends?

M. Renouvier leaves us in no doubt of his view on these points:

> "The facts of consciousness prove that there exists also a commencement and a term of phenomena in representations as representative. Between the action and re-action of the substantialist (materialist) school, there interposes (in a whole order of cases) a fact which physics and biology cannot lay hold of in their special order of observation, with their methods and instruments, a fact which on the other hand they cannot deny, consciousness itself. Sensibility properly so called and the emotions are not terms in the series of the centripetal and centrifugal modifications given in the field of natural science, and nevertheless it is the case that they mark the specific end of some of these modifications, and the origin of others. The solution of continuity in respect of the kind of the phenomena is inevitable. And be it remarked, that I do not yet speak of the will." (I. 360-1.)

His theory is, that representations of certain higher kinds, as distinguished from the innervations on which they depend, are

necessary causal links in the sequences where they occur, contributing to determine their issue; and among these representations he does not include states of *will*. The will is a further and deeper causal agency still, acting on and in representations, which have, alone and independently of the will, a causal agency upon the organism. The will may call up in the brain a representation of a desired end, but it is the representation which determines the movement to realise the end. Five distinct cases of the agency of representations are enumerated; (1) instinctive movements with obscure consciousness of them, and where the representation of the end may be either clear or obscure; (2) movements following emotions, where the movements themselves are not foreseen or even represented at the moment; (3) similar movements following the imagination of real objects; (4) similar movements following the imagination of objects regarded as merely possible; (5) movements following a volition. (I. 367-8.)

As to the will, in its relation to these determinations, we find him saying at another place, after repeating the foregoing enumeration:

"The will can precede a great number of these facts of locomotion which occur at other times without will; *and it precedes none of them which may not in certain cases occur spontaneously*. We know besides, and it is universally admitted, that a movement is never attributable to the will as such *(volonté formelle)*, unless the imagination first envisages it, unless a certain end which consciousness proposes, consequently a certain emotion, stands as its *motive*. On this simple view of the case we must conclude, it would seem, that what we call the will is not, properly speaking, cause of locomotion, that there is ambiguity and bad logic in so taking it. Hence the division of movements into voluntary and involuntary is without significance for biology; the real difference between them lies entirely in the representations, one set of facts occurring in consequence of a consciousness which fashions and fixes itself by setting some of its own states in opposition to others, and the other set of facts arising with an unreflected, or confused, or obscure consciousness, or even one altogether unassignable, whether of the movement itself or of its purpose." (I. 394.)

We see how clear and peremptory is M. Renouvier's rejection of the alternative theory, that which, in psychology, denies causality to consciousness altogether, and has been nicknamed the "conscious-automaton" theory. He maintains, we have seen, that in five different cases consciousness exercises a real power, and impresses a new direction on the organism. The next question is, at what precise point does this re-active agency strike in? Do all representations, as distinguished from presentations, exert it? Is it a property of the pleasurable or painful quality of the representations, so that those which are pleasant cause a movement to retain or increase them, those which are painful a movement to avoid them? We have seen

that volition does not furnish the demarcation, neither does the emotional character of states of consciousness as distinguished from the imaginative, nor the imaginative as distinguished from the emotional, as we see from both kinds being included in the five cases.

M. Renouvier's statements on this point are not pushed so far as might be wished; nevertheless his meaning is clear so far as it goes. It is, that reflective consciousness, including volitional, emotional, and intellectual functions, enables consciousness to re-act on the organism. Below the point of reflection, we have the inferior functions which belong properly to biology, above it the superior functions which belong to psychology. This, then, is the turning point of re-action, where the lower functions cease solely to govern the higher, and the higher begin to re-act upon the lower. But it will be remarked that this point is still left vague, inasmuch as the functions of intellect, volition, and emotion, are included in the moment of reflection which gives the demarcation. It is rather a tract than a line which is given as the frontier.

"When the being is envisaged at that degree of phenomenal evolution where we have him as a complete organism with emotional and volitional functions, a new and inverse order of causality takes effect; observable, it is true, only within the limits of the higher animality, but that is enough, and the law which I put in evidence has just that significance. The functions which are raised to the level of consciousness subordinate to themselves and govern, more and more, the inferior functions, and nature in some sort changes her front.—The study of the first order of development belongs specially to biology. That of the inverse order is my subject; and my analysis, fixing on facts of consciousness, has to follow them up to the precise point at which the organic phenomena begin, of which they are the causes." (I. 357.)

The vagueness which I have just remarked seems to be a consequence of M. Renouvier's method. He demarcates the functions by his categories, as we have already seen, and this leads him away from close analysis of the facts; their grouping suffices him. The categories are a real hindrance of analysis. They make the functions for this practical purpose as obstructive as if the operations which they describe were called by the old name of faculties.

But this is not their only fault. When we ask how M. Renouvier conceives the causal action of states of consciousness upon the organism, or how he would describe, even in quite general terms, the mode of its operation, a question which must be asked and answered before we can conceive the action as a reality, we get no reply whatever from him, any more than from others; all alike are in total darkness on the point. What we get instead is a statement of the true way of conceiving the

notion of causality; and that is a very different thing. It is true that,

> "When the order of sequence of two acts is clearly perceived and defined, *e.g.*, from an organic to an emotional function, or reciprocally, we may give the name of cause to antecedents of either kind, and that of effect to the consequents. That is saying that a force is interposed between these acts, in such a way that the one occurs when the other is given. But this force is distinctly not a virtue which passes from one subject" [meaning *ens*] "to another, to inform it, which is an unintelligible hypothesis; neither is it the immanent evolution of an unique subject and that subject's acts, without anything new, original, and irreducible coming in; but it is the result of the harmonic unity of the phenomena included in development *(dans le devenir)*, or of a law above which we are totally unable to posit anything intelligible". (I. 353-4.)

In admitting, as I have admitted, that this last sentence is true, I do not include M. Renouvier's interpretation of it, namely, that his category of causality is the true expression of the general term "harmonic unity". We may use the term *causation* for the relation of conditioning and conditioned. And if the facts permitted, we might call a state of consciousness the cause of a state of nerve, just as properly as *vice versa*. But the facts do not permit it, and to this M. Renouvier, like so many others, is blind. It is not enough to say, as he and others do, that we do not know even in the most general way, *how* consciousness depends on states, or movements, of organism, as if that was sufficient to establish a parallel with our ignorance *how* states, or movements, of organism can depend on consciousness. There is this further fact, that we know organisms existing (apparently at least) without consciousness; but we have no knowledge of states of consciousness floating free without organisms. Until it is shown that there are, in the organism, states of consciousness which are not dependent on innervation, the presumption is in favour of subsequent states of consciousness depending, not on prior states of consciousness, but on innervations underlying the prior states of consciousness. Innervations are thus conceived as conditioned and determined by innervations, and not by states of consciousness; and the states of consciousness which accompany them are conceived as depending throughout, not on each other, but on the sequence of the innervations. We can indeed analyse the sequence of states of consciousness, and discover their general laws, but the causation which determines them is in the laws of the underlying innervations.

Take the case for example of a musical phrase being heard and exciting the vocal organs to reproduce it. We dwell upon the pleasure of the sounds, it is said, and the *feeling* of pleasure alone accounts for our dwelling on them. We then try to sing them, and here again the *wish* to hear them repeated determines

the effort. Thirdly, we may succeed more or less in the reproduction, but here again the *perception* of the likeness or unlikeness of the sounds produced to those originally heard guides us in the tentative efforts we make. It thus appears as if three states of consciousness as such, a feeling, a wish, a perception, are necessary conditions of our singing the phrase. But it is forgotten that each of these states of consciousness has its underlying state of innervation. The presumption surely is, that the innervation underlying the feeling of *pleasure* in the sounds originally heard is different from, being a modification of, the innervation underlying the mere perception of the sounds without such pleasure. Its action upon the innervation of the vocal organs must therefore likewise be different. So again the *wish* to hear the sounds again has its own modification of innervation, different from that of the mere pleasure of hearing, still more different from that of the mere perception. The same may be said of the third state of consciousness, the *perception* of the likeness or unlikeness which is said to guide our tentative efforts, which, as combined with the pleasure and the wish, is different from a mere perception of likeness and unlikeness. It may, and indeed must, on this theory be held, that, if everything remained the same in the innervation, and the consciousness *alone* was suppressed, without altering the underlying modifications of the innervation, then the musical phrase originally conveyed to the ear would stimulate the vocal organs as before, and would be reproduced by the organism just the same as when consciousness accompanied its action.

If it is objected that this theory logically throws on the sole shoulders of physical agency the enormous burden of accounting for all the facts of evolution and design in nature, all the phenomena of vital, conscious, instinctive, and social development, I think there needs be no hesitation in admitting it. It is thorough-going materialism within the limits of science, *but not beyond*, and that is the important point for philosophy. Consciousness is the final cause, the τέλος, of all matter. That consciousness of a particular kind should arise in it, is the purpose which it serves. Consciousness is also that out of which it arose;—*how* we cannot construe to thought, because our ideas of modes of causation are all derived from matter, and presuppose its existence. It is only within a material world that real efficient causation, meaning always by this phrase the phenomenal conditioning of one thing by another, is scientifically intelligible. Non-material causation is a *cadre* which we have no means of filling up. But science may fairly hope some day to be able to give the *differentia* of the various forces or modes of motion characterised as mechanical, chemical, vital, and vital with con

sciousness, with the potentialities of which matter was endowed, when it first rose as an island in the ocean of consciousness, destined to contribute in some special manner to the development of its matrix. Matter springs out of consciousness and works towards consciousness again. Why, then, need we hesitate to admit that its forces are by themselves competent to the work which consciousness originally imposed upon them?

I dwell on this point at great but I hope not tedious length, because it is the first and most essential point to be determined by any psychologist who rejects the "entity" theory of soul. Psychology being a science, aiming at establishing causal dependences, and not merely like metaphysic, or M. Renouvier's General Logic, at subjective analysis of consciousness,—where, it must be demanded of the psychologist, where does he place his *real* nexus of causation? In the states of consciousness? or in the innervation? or now in one, now in the other? or in both at once? If now in one, now in the other, or in both at once, then what sort of nexus is it imagined to be? We know the sort of nexus in innervation; we know what is *supposed* to be the nexus in the "faculties" of the entity; but a mixture of both is unintelligible, and a causal nexus between states of consciousness, as such, derives all its plausibility from supposed mental forces underlying the phenomenal states of consciousness.

Several psychologists of the empirical school have thought it possible to psychologise without a prior hypothesis on this fundamental question. They have thought it feasible to leave the agent or Subject in the state of an unknown *something*, an x so to speak; to have their thoughts a chaos on the point; to have no opinion as to where the real causative nexus in consciousness lies. They are content with registering and classifying the facts. If this course were strictly and consistently adhered to, psychology would establish no other than merely *empirical* laws, as they are called; that is, general facts *not* referred to the causal nexus which groups them, like Kepler's laws until connected with the law of gravitation, or like nominal in contrast to real definition.

When more than this is aimed at, yet without a prior hypothesis as to the causative agency, the result is merely to substitute final for efficient cause at the critical moment. When, for instance, we say that a *sense of pleasure* stimulates action by which we retain it and dwell on it, as when an agreeable warmth prompts a movement towards the hearth, the pleasurable sensation which is put forward as a real link in the chain of events, and therefore in the character of an efficient cause in action and re-action with states of innervation, is really a final cause, not an efficient one. That is to say, it renders intelligible *to us*, the

spectators, the action of movement towards the hearth, by making it look *reasonable;* but it gives no account of how pleasurable sensation acts efficiently on nerve. It is not pretended that it is a final cause to the *agent,* for it is precisely in spontaneous actions, actions below volition, that it is brought forward as an explanation. What is a final cause *to spectators* is put forward as an efficient cause *to the agent.* On this subreption of final cause, in the place of efficient, a very large part of empirical psychology at the present day depends. Empirical psychologists who are not "conscious automatists" are in the dilemma of either going back to the "soul and its faculties," or else of building their science on "final causes".

We shall now understand M. Renouvier's position. It is a far better one than that of those empirical psychologists I have spoken of. He boldly adopts final causes as efficient in adopting the categories. A *category* of final cause means final cause as an ultimate and irreducible law of thought, constitutive of the universe. After that, there is no difficulty. If consciousness does not appear always as efficient, as, *e.g.,* in volition, still its action can be subsumed under the case of reasonable actions for ends, as they appear to spectators; spectators can bring them under the category; and the category admits no further question. His theory is sufficient, consistent, intrepid, and illusory. That of the empirical psychologists is illusory only.

I now come to a point introductory to M. Renouvier's theory of volition, I mean his view of what are called the laws of association. Here again there is a certain similarity, and at the same time a difference, between his views and those of the associationists. The similarity lies in the method, the difference in the result. Like them, M. Renouvier does not see the advantage, perhaps I might say the necessity, of strictly distinguishing the spontaneous action of the conscious being from his action as governed either by sensation from without or by volition from within. He does not ask in what ways it is the tendency of the conscious being to act, when left solely to his own promptings, isolated, at any given moment, from further influence of the external world, and previous to the arising of volition in consequence of the train of thoughts and feelings which then spontaneously occur to him. If any specific laws of this spontaneous action (spontaneous redintegration, as I have termed it, from Sir W. Hamilton's establishment of redintegration as its primary law) could be discovered, it would lead us into the very heart of the conscious agent's nature. But as the question is usually treated, and as it is treated by M. Renouvier, the very possibility of there being any spontaneous tendencies in redinte-

gration is ignored, inasmuch as the distinction and isolation of the state to be examined is neglected.

Contiguity and similarity, which are commonly assigned as the laws of association, have yet to make good their claim to be laws of *spontaneous* redintegration. If they were the only laws of association, they would be incompatible with any theory but the *tabula rasa* theory of the mind, inasmuch as they express solely the influence exerted on the mind by experience. The difference, therefore, between M. Renouvier and the associationists, from this point of view, is not an important one; for he includes all the laws of association under the one word *habit*, notwithstanding that this term covers with him a very different content from theirs, and first and foremost the categories themselves. (I. 130.) The mechanism of the mind itself together with its experience is what M. Renouvier means by *habit*, his objection to the associationists being this that they make this mechanism the product of experience alone. (I. 243, Obs.)

His view is briefly this:

"When the train of thought has not its immediate origin in the functions of consciousness guided by emotion or by will, it is from habit that it results; and this case is very common, as much for man as for animals. But I shall treat elsewhere of the law of habit. Here it is enough to lay down as a fact, that thought reproduces itself, by a spontaneous movement, in that order, whatever it be, which is once given or repeated, though primitively due either to experience, or emotion, or reflection, or will." (I. 132-3.)

Association of ideas thus belongs, according to M. Renouvier, to the lower group of functions, though receiving acquisitions from the higher, and is entirely dependent on habit, whatever may be the source of the ideas associated, the re-active power of the mind beginning only with reflection, emotion, and will. He denies what seems to me a real initiative taken by conscious agents at the point of spontaneous redintegration, but makes up for this denial, as we shall presently see, by placing an initiative of a very different kind at another point, namely, at the moment of conscious volition.

At length we reach M. Renouvier's theory of will and emotion, which leads directly to his theory of liberty, the central doctrine of the whole book, being the chief foundation of Certitude. The theory of will constitutes the psychological basis of that of liberty, its other basis consisting in certain metaphysical or logical conceptions. The two functions of will and emotion (by which latter word I throughout this article translate M. Renouvier's *passion*) are defined respectively by the categories of causation and final-causation. As to emotion:

"Every emotion exists on condition of an end proposed; and with the ends the emotions vary, as sensations vary with their causes. . . . The ends being laid down in consciousness itself, which cannot be said of the causes of sensations, analysis can base the nomenclature of the emotions on that of their ends." (I. 250.)

The will has a separate basis and a separate existence from emotion:

"When we look at the function of will directly, and define it by the category of force or causality, which binds facts by subjecting them to a law of constant sequence, we see nothing in it which necessarily implies attraction or preference or pleasurable feeling of any kind. Following this route which is beyond suspicion (*irréprochable*), it is difficult to comprehend so many philosophers identifying will with desire. Envisage this latter emotion by itself, it will appear no less distinct. It is enough to remark, that desire may arise for an object of which we do not know whether it be realisable, and that it may continue without being followed by any effect either external or in consciousness only. In contrast to this, the name of will has never been given but to representations joined to the effort of an act which aims at realising an object internal or external, and followed by those consequences of the act which nature permits. If it were not so, would all men clearly understand that we can desire involuntarily, and can will without desiring;—and can we deny that they do so understand?" (I. 226-7.)

I for one deny it unhesitatingly, in the sense in which *desire* and *will* are used in this passage, though there is a *vague* sense in which it is undeniable. When in common parlance we speak of willing without desiring, we mean willing what is not pleasant except as it is desirable to do a painful duty or deny ourselves a gratification. And besides, if more than this was meant by common parlance, it would cut the ground from M. Renouvier's description of the will as "representations joined to the effort of an act which aims at realising an object internal or external". To aim at realising anything involves desiring its realisation.

Lingering a little on this description of the will, let us ask at what point of the phrase just quoted M. Renouvier finds its real characteristic. The name of will is clearly given to representations of a certain kind. But are they representations of an *act which aims* at realising something? Or are they representations of the abstract *effort* involved in such acts? It cannot be the first, for that would take the will out of dependence on the category of causality, and make it depend on that of final causation, by involving a final cause in the definition of will. It must therefore be abstract *effort* that M. Renouvier identifies with will, supposing him to accept this description as true; and abstract effort, with its existence guaranteed by a category of thought, is an abstract "entity," if ever there was one.

How there can be will without desire is, I must confess, to

me inconceivable. True, the element of *effort* is distinguishable in all such cases of desire as are also cases of will; you can have desire without that effort, but you cannot have the effort without desire; effort is an element in the total which cannot exist separately. It cannot be defined but by the end which the total state of consciousness aims at, that is, either objectively by the object desired, or subjectively by the gratification of the desire. As a phenomenist M. Renouvier ought to hold, that the effort in volition is what it is *known as.* Now it is known only *as feeling.* But M. Renouvier bases it on the category of causality, an irreducible law of thought, and therefore he assigns to it, as he logically must, a reality corresponding to the law, quite irrespective of the phenomenal feeling, the sense of effort in volition.

Let us now turn to the formal definition which M. Renouvier gives of volition, and of will as the general term embracing the particular acts, in the chapter entitled "Man as will, or automotive representation". He begins by premising as a truth of experience, "an appearance but an incontestable one," that

> "In the course of the representations which group themselves or form sequences, constituting what we are when we think we have the direction of ourselves, we especially identify our consciousness with that representation which at each moment seems to come up *(se produire)* without previous efficient cause, that is to say, which seems first to cause itself, then to determine the other representations." (I. 296-7.)

After enlarging on facts of this kind comes the formal definition:

> "I understand by volition the character of an act of consciousness which represents itself, not as simply given, but as being able, or having been able, to be, or not to be, aroused or continued, without any other apparent change than that which is connected with the representation itself in its summoning or averting the representation." (I. 301.)

This definition, he says, though it may seem obscure, yet expresses the actual fact, and in connexion with the fact we must understand it; "we are at the *nodus* of human consciousness". It is not difficult to see what is the fact intended; it is the fact known as the *sense of freedom*; this is the fact which supplies M. Renouvier with his definition of the will. As he himself says, a few pages farther on:

> "In defining the will, I have defined liberty, since liberty is a potency *(puissance)*, and I have not considered the will otherwise, nor yet out of consciousness, or elsewhere than in man. . . . The question relates to the potentiality of future events, evidenced in certain representations, evidenced as ambiguous according to all appearance, and becoming a volition in the act of representation which resolves itself and determines itself among several possibles. There is nothing but analysis in that." (I. 306).

Again, in the chapter on the relation between the higher states of consciousness and muscular movements, from which I have already quoted in another connexion, he thus returns to the will:

"We have envisaged the will in its own proper theatre, when it is seen at the origin of all and each of the ramifications of the trains of reflective thought in man. We could not give an account of the function by which it projects, connects, and varies its acts, when believing itself free, unless we characterised the representation as voluntary, and as capable of summoning, sustaining, and suspending itself, in the midst of that matter of ends and images which instinct and experience accumulate for it, and from which it borrows its elements. That is the real and true place occupied by the will." (I. 395).

Observe now this last touch in conclusion:

"This theory brings to unity the system of relations between representations and movements, and raises into another sphere the fact of volition properly so called, *sign or fact corresponding to which biology can discover none in her domain.* It is very different with sensations, emotions, and imaginations." (I. 396-7).

The italics are mine. I wish to emphasise the point they indicate, in order to show the close similarity between M. Renouvier's theory and what may be called *ego* theories and *soul* theories. There is held in all alike a supra-physical creative agency, making new beginnings and interrupting the continuity of events (I. 304); but in M. Renouvier's theory, this agency resides in and is exercised by states of consciousness, self-caused or *automotive* representations, and has its reality guaranteed by the category of causation. That is what is distinctive of his theory; and it is a distinction which, though real, is yet not enough, in my opinion, to justify his theory, in respect of the point now under discussion, being called phenomenism, if the others are stigmatised as absolutism. Categories, as irreducible laws of thought, are *pro tanto* destructive of its phenomenist character.

Here would be the place, if I could attempt to give a complete account of M. Renouvier's work, to mention the various collateral speculations which group themselves round the main line of thought; the nature of life, for instance, the presence of final cause in nature, the conception of an universal philosophical language, and especially what is perhaps the most valuable, as it is the most prominent, feature of all, the theory of mental and moral *vertige*, the yielding and abandonment of consciousness to its lower impulses, letting go its hold on the promptings of reason and will; in connexion with phenomena which are shown to be of kindred origin, such as double personality, sleep, sleep-walking, and so-called mesmeric influence. Gladly would I dwell upon M. Renouvier's warm advocacy of all that contributes to real

dignity and independence of character, especially in education, in connexion with his theory on these topics; a point which comes out most prominently perhaps in his criticism of Pascal (II. 41-8). But to go through all this, or attempt to mention the many profound and luminous remarks with which the whole work is strewn, would be impossible without trenching on the space, already too small, for following out the main current of the theory. Keeping then to that current, I come at once to the question which is the staple of all M. Renouvier's speculation, the question of Free-will.

And here I will begin with a remark of M. Renouvier's, which stands with him at the opening of the subject; it is that in England, where, he pays us the compliment of saying, the education of the will is perhaps somewhat more advanced than on the continent, the men of thought are almost without exception determinists, while on the contrary "those peoples whose diploma'd philosophers and whose theologians (of the Jesuit school) vie with each other in teaching a nominal free-will, find interposed between them and practical liberty the obstacle of a priesthood and a government, instituted as they believe by this liberty, but always for its destruction" (II. 51-54). It seems, then, that the fruit of maintaining a nominal free-will is despotism, that of denying it liberty. Let us see what kind of free-will M. Renouvier maintains.

M. Renouvier's handling of Liberty falls naturally into three portions, (1) in connexion with its basis, the will; (2) in connexion with certitude, of which it is a basis; (3) in connexion with indeterminism or real contingency as a general fact of existence as a whole, which takes us up into the highest and most problematic region of philosophy. To begin with the first of these.

The position which he assigns to his own doctrine is that of a mean between two opposite errors, indifferentism, or the tenet of the so-called liberty of indifference, on one side, and determinism on the other. Both theories, he says, require the notion of a separable will, a will separable from the representations in which it is manifested. Such a will must be conceived as in itself wholly indifferent to any motives or any decision. But this separation of a "pure will" being really a chimera, the determinists easily show, as against the indifferentists, that *willing* is the moment of preponderance of one motive over others, the place of the pure will being taken by a mathematical point, and the image of a *balance* of motives being introduced. (II. 63-73). He then proceeds:

"The liberty which we can admit is that character of a reflective and voluntary human act, in which consciousness posits in close union the

motive and the motor identified with herself, while affirming that other acts, exclusive of that first mentioned, were possible at the same instant. This possibility, whether apparent only or real also, is the most distinct title of liberty, the clearest element in its definition." (II. 73-4.)

Let us now see how this is worked out and justified. How does he conceive the identification of motive and motor with each other and with consciousness, at the moment of volition? Just above, in criticising determinism, he had said:

"Deny that beyond the passive and received impressions, in deliberation properly so called, there ever arises a motive into which that which is called will does not already enter as an element; affirm that, in such cases a *motive* is always a *willed motive*, that is to say, now summoned *(évoqué)* among other motives equally possible;—and the determinist argument is at once upset." (II. 71.)

Again, he speaks of free acts as not being uncaused; "their cause is the man, in the totality and plenitude of his functions". (II., p. 86.)

Determinists, in my opinion, need not hesitate to follow M. Renouvier in both these statements, and yet keep their determinism intact. The question is, *what is* "that which is called will," and how does it enter as an element into motives? It is not necessary for determinists, as M. Renouvier imagines, to hold that all the motives which they speak of in their image of the balance are motives externally impressed on the deliberating agent (however defined) at the moment of action, that the agent vanishes to a point, and exists only "to yield to communicated movements". (I. 69.) On the contrary, the agent at the moment of deliberation is a concrete being, capable of re-acting as well as being acted on, of moulding his motives as much as they mould him. The nature and character of that re-action and moulding of motives is the question at issue. The point insisted on as essential by determinists is the subjection of the re-action (as well as the action) to law. But, says M. Renouvier, "*Qui dit loi, entend nécessité. Rien de plus vrai et de plus légitime.*" There it seems to me is his mistake. By necessity *he* means *compulsion.* But there are many determinists who do not use either *necessity* or *law* in that sense.

Now it is M. Renouvier's theory of the will ("in defining the will I have defined liberty") that determines the sense of the statements quoted. When he says that the will enters into a motive as element, he means that an agency, the reality of which is guaranteed by a category, begins a new series of events in the world, appearing in the form of a self-caused representation, a *motif automoteur.* (II. 72.) I have already said that this theory seems to be as ontological in character as anything can be. It is also wholly unconstruable to thought. It contains three

unintelligibles; first, the notion of an absolutely new commencement; secondly, that of a *causa sui*, a thing which causes itself to begin to be; and thirdly, that of real contingency, which we shall come to consider in its place. If the free agency of man, "man in the totality and plenitude of his functions," could be established only by a theory like this, its case would be desperate indeed.

M. Renouvier imagines that all determinists are of one school, that they either deny free-will, or may be logically compelled to deny it on their own premisses. He forgets that, from the time of Leibniz at any rate, there has been a school of determinists who maintain free-will, though insisting at the same time on the universality of law, the uniformity of nature. Previously there had been but two conflicting views generally current, that of free-will and that of necessity. Those were necessarians who, defining liberty as the absence of external compulsion, denied it of the will, which they held was always constrained by something external to itself. But Leibniz, by opposing necessity to logical contingency, distinguished it as a logical category from compulsion, which was an efficient agency; which distinction is the true *note* of determinism, and justifies the name as distinguished from necessarianism. On this basis, though he did not work it out to full clearness, Leibniz propounded the theory of the determination of the will by the nature of the agent in conjunction with motives; by which he at one stroke based its freedom on logical, not *real*, contingency, and distinguished this freedom from what he called "liberty of indifference". Leibniz and those who agree with him may be called free-will determinists, to distinguish them either from necessarians or from compulsory determinists. Indeterminists on the other hand are those who, holding free-will, base it not upon a merely logical, but upon a *real* contingency or indetermination. Of this number is M. Renouvier.

It is not, I think, difficult to show that free-will is perfectly compatible with determinism.

The beginning of the whole question is the sense of freedom, and its relation to real freedom, with which it must not be confounded. But the mode of distinguishing the two must be attended to. The sense of freedom in deliberating, choosing, and deciding, is not distinguished from real freedom as testimony is distinguished from the thing testified, so that the two are separable from each other; but as a subjective aspect is distinguished from its objective aspect, *e.g.*, the Berkeleyan sensations and ideas of matter from matter itself. Both aspects are equally real and equally true. The question is, what they import.

In judging of this, we must fix our view on the subjective aspect, the sense of freedom, for that is what real freedom is *known as*; which is an obvious phenomenist canon. Here comes in that other cardinal distinction in philosophy, which is throughout neglected by M. Renouvier, who puts his categories in its stead, as I showed in my former article; I mean the distinction of percept and concept. The sense of freedom (and consequently real freedom) is a percept,—a percept in what I have elsewhere called *primary* consciousness, entering into reflection, but not yet made into a concept. We perceive ourselves *in the act* of deciding, before perceiving ourselves *decided*. The uncertainty attaching to the fact of *inchoateness* in the act of deciding is what gives us the sense of freedom; of which the inchoateness itself is the reality.

Now all such acts, when looked at as completed and making parts of a train of events, are looked at as concepts, or rather as percepts in *direct* consciousness (as I have called it elsewhere), the formation of which depends on conception. We have before us no longer the act *per se*, as it looked while going on, but we have before us the completed act, in connexion with what preceded and with what is to follow it. When we put the question, whether acts looked at in this second way are really free or really necessitated, the answer must be, *necessitated*. An action is an agent in motion; a completed motion is a determined act, an act determined by the agent itself. To call completed acts, acts looked at in this second way, *free* (as in saying that some completed acts are free and others necessitated), is to introduce a contradiction into the free acts and into the very notion of freedom, by supposing it *free* and *fixed* at the same time and in the same respect.

Now what M. Renouvier does, in common, I must confess, with the great majority, is this: he opposes liberty and necessity as mutually exclusive, which they are only when said of events taken in this second way, as concepts, or as completed events and parts of a series. Only one of the two contradictories can then be true of them, and M. Renouvier contends that, in many cases, it is liberty. Determinists contend that it is always necessity; and this is not contradictory to, but rather presupposes, the reality of freedom and the sense of freedom, said of those same events in their inchoate state, or said of man *while acting*.

It will, I suppose, be objected, that this theory reduces the freedom of man to the level of that of stones or billiard-balls, the things usually taken as types of necessity. But this objection arises from the separatist prejudice of seeing in the universe a mere collection of individual objects or groups of objects, each of which has a rounded-off nature of its own, wholly apart from

that of others. Abandon this piece of superficiality, and there is nothing lowering to man in the present theory. Freedom *alone* is the same in all things, and common to all; the differences lie in the different phenomena with which it is accompanied, in the various degrees of richness, complexity, and moral value, of the free agents, man being at the head of the scale.

> "To every Form of being is assigned
> An *active* Principle.—
> * * * *
> This is the freedom of the universe."[1]

Observe, to *every* form. And why? Because the character of inchoateness attaches to all action, to everything that occupies duration of time.

Hence the significance of the remark made above, that M. Renouvier overlooked the initiative taken by the organism in spontaneous redintegration, and replaced it by an initiative of a different kind, a wholly new commencement, at a further point, namely, volition. The organism is always re-acting on its impressions. Without re-action there would be no perception, the threshold of consciousness would never be reached; without re-action there would arise no trains of images or feelings in the organism left to itself; and without re-action again, this time accompanied by sense of effort, there would be no voluntary direction of the spontaneous trains. This last re-action is the most marked of all, we are conscious of it for itself; it is a turning point often (not always) slowly reached but instantly followed by rapid and often vigorous energy, a moment marked by the decisive "I will" or "I won't". This character of decision distinguishes volition from desire, out of which it arises and to which it gives effect.

Two further remarks are requisite on the conception of freedom which I have now put forth. The first is, that it affords a basis for free will, corresponding to and replacing the conception of a free creative and self-originated power held by indeterminists. So that I am enabled to go beyond the view of perhaps the majority of determinists, compulsory determinists as I have called them, who define human freedom as a man's power to *do* as he pleases, implying that he can never please as he pleases, but that, though he does as he pleases, he pleases as he must; that is, deny the freedom of the act of choice. Now this arises from their looking at acts as completed events, and in connexion with others, to the neglect of their *inchoate* character; looking at them, in fact, in the very same way as the indeterminists do; only that then they deny, and very truly, that acts

[1] Wordsworth. *The Excursion*, Book IX. 1.

of choice are any exception to the law of uniform causation, while the indeterminists invent a peculiar power or faculty of liberty, in order to take them out of that law.

But consider steadily for a moment the phrase, *cannot please as he pleases;* for it opens a door into the very heart of the puzzle of this question. It covers two very different senses; *(a)* that a man *cannot* please as he *does* please, which is a contradiction in terms; and this of course is not the sense in which the phrase is used or implied by determinists; and *(b)* that, though the deed is determined by his choice, his choice is determined by some other conditions, which is the truth. But mark that here the act of choice is considered, not by itself, but in connexion with conditions, separate from it in thought, just as the deed, which is one thing, depends on the choice, which is another. Look, however, at the act of choice by itself, as in sense *(a)*, and then I hold that, the contradictory of sense *(a)* being true, (namely, that a man *can* please as he pleases), and pleasing or choosing being therefore the ultimate fact upon the analysis of which the whole question hangs, the act of choice is an act in which man becomes conscious of the freedom or activity which he shares, in Wordsworth's language, with "every form of being". The freedom of the act of choice thus depends upon the agent of the will being something concrete or empirical, exercising a re-action, and not being empty of content and therefore imaginable as wholly or passively determined by external agents, which is the doctrine of the compulsory determinists.

The second remark is, that the basis spoken of is a basis only. It does not prevent us, when a further supposition is introduced, from distinguishing some acts as free and others as compulsory; for instance, when we speak of a man as being the slave of his passions, or on the other hand when the "service" of the highest ideal is spoken of as "perfect freedom". In all such cases, we are no longer speaking of man's freedom generally, or as a whole, but we are introducing a further supposition; we are identifying the man with one part of his nature as distinguished from another part, in the two cases mentioned with a higher part as distinguished from a lower, or what is the same thing, with one set of motives as distinguished from another set. Either part, either set of motives, may dominate the other; and then the part dominating is free, and the part dominated is brought into subjection. But in either case, the acts of the man are free, in the fundamental sense of the term, and the distinction introduced is a distinction, not between freedom and necessity, but between freedom and subjection, which gives the term *freedom* a very different sense, namely, that of freedom from external compulsion;

this conception, at the same time, being no longer restricted to the man's outward acts, as the compulsory determinists hold, but extended and applied to his inward acts of choice as well.

Briefly, then, to sum up the position of the free-will determinists. There are two senses of *freedom*, (1) freedom from law, (2) freedom from compulsion. The act of choice is often free from compulsion, is so always indeed, so far as it is strictly an act of choice, choice implying this freedom. It is never free from law, the laws namely of the agent's own nature and those of his environment. But in saying this it must be remembered, that we are regarding the act of choice as a completed act, as a member in a chain of conditions, and we are abstracting from that moment of inchoateness, in virtue of which when regarded alone, as it is in the instant of choosing, every act appears to be free in *every* sense, even from *law*. Observe that this moment of inchoateness is the central point of the whole theory, and that which gives it unity. For on this moment of inchoateness depends, as we shall presently see, that sense of freedom which is also a sense of power; our ignorance of the law (which nevertheless really exists) enabling us to feel our own energy (which obeys it) not as law but as energy. Which is saying in other words, that our sense of freedom from compulsion, which is real freedom, depends on our momentary imagination of the absence of any limit whatever.

I pass over the collateral support which M. Renouvier attempts to derive for his thesis of liberty from the doctrine of chances, his examination of the "*loi dite des grands nombres*"; I pass over his criticism of J. S. Mill; his reply to M. Proudhon; and the many acute remarks interspersed everywhere in his pages. I repeat what I said in my former article, that refutation is in no wise my object, but rather to exhibit the main outlines of his system, with the main distinctive principles upon which it rests; pointing out nevertheless some cases where it seems to derogate from its own avowed character of Phenomenism, in consequence of the introduction of irreducible categories, or laws of thought.

One point, however, ought not to be passed in silence, which is the acutely stated argument for real liberty drawn from the moral law. And this will form the natural transition to the second branch of the subject, liberty as a basis of certitude. "If everything is necessary," says M. Renouvier, "then moral judgments, the notions of right and of duty, have no foundation in the nature of things". And this he proceeds to develop:

"There cannot have existed a duty to do that which the event has shown to be impossible; there cannot have existed a right of demanding what the event has declared was not to be. We are in fact admitting" [by holding

necessity] "that the only possibles among imagined futures are those which are realised. Therefore there is no right, no duty, in the past, beyond that which was and which is. Therefore, also, no right, no duty in the present, for it may well be that our ignorance enables emotion to attach itself to what is impossible, and judge it to be good, or the imagination to construct a more satisfactory order than that of experience; but it cannot make the impossible exigible." (II. 58.)

"There cannot have existed a duty," &c.—Surely there *can*, if the agent who is the subject of the duty is himself the cause of its impossibility. The discrepancy between the *agent's own* moral ideal and *his own* act is what his conscience reproaches him with; and the sense of that discrepancy is the very essence of a reproving conscience. In the words of a very close and subtil observer of these matters, "the good that I would I do not: but the evil which I would not, that I do". (*Rom.* vii. 19.) And the agent identifies himself with his ideal and not with his act, distinguishes his *true* self from his actual but (as he hopes) temporary self, so long as he listens to the voice of conscience.

M. Renouvier is tacitly supposing that the impossibility is imposed on the agent from without; as if it were a case of imprisonment, and the prisoner reproached for not escaping. He treats the case of freedom to choose as if it were a case of freedom to do what we choose, the hindrances to which latter are external. Now necessity includes not only necessity imposed on one thing by another thing, but also necessity in the action of a thing considered by itself. Thus, though all action is alike free, namely, in its inchoateness, yet all is alike subject to law, and therefore necessary. During the inchoateness of an act of choice, the agent represents both alternatives as possible; that is, he is uncertain of the *relative strength* of his own motives; the completion of the act of choice alone shows what that relative strength really was in the given case. I remark also, that the agent's representation of both alternatives as possible is not the subjective aspect of their being both *really* possible, but is the *objective* aspect of the agent's feeling of *uncertainty* about them. Sense of freedom,—objective aspect, inchoateness; sense of uncertainty,—objective aspect, representation of alternatives as equally possible.

M. Renouvier returns to the charge in the third Part:

"If, of two acts between which we balance, one only was possible in reality, the moral law, which at the moment should command the act which necessarily *will be*, and forbid the one which necessarily *will not be*,—or which should command the one which *will not be* and forbid that which *will*;—that moral law would be a vain, ridiculous, fantastic, or odious injunction, according to the kind of authority which was attributed to it." (III. 164-5.)

Not at all. Another feature of the moral law is here missed,

besides its intimateness as just noticed. The moral law contains its motive in itself; it is an ideal which has attractive power, and aids in its own fulfilment. If not obeyed now, it may be *next time;* the effort to obey it, fruitless now, bears fruit in the future. And still more is this the case, if it is efficacious to produce obedience *now*. M. Renouvier is supposing that the moral law is like the decree of a sovereign, to be obeyed or disobeyed by a subject, only without the sanctions which give it efficacity. Moral law is not merely civil law *minus* sanction. I cannot think that M. Renouvier shows his wonted subtilty in these objections, which involve a complete departure from his own strongly urged principle of regarding man as a concrete agent, "in the totality and plenitude of his functions," and introduce him as an abstract entity. They are arrows from the *scholastic* quiver.

When therefore he says, that "the belief in the real contingency *(ambiguité)* of future events is a condition of the moral function of consciousness," (III. 165), that is, of conscience, I see in this, not a demonstrated fact, but a statement of that erroneous mode of distinction between sense of freedom and real freedom which I have noted above. Conscience does not require for its operation a *belief* in real contingency; it requires a *perception* of real freedom. It does not rest on a belief which may be erroneous, and at any rate demands independent proof. It has nothing to do, so far as its basis is concerned, either with the doctrine of contingency or with that of necessity; nothing to hope from the one, nothing to fear from the other.

When M. Renouvier, touching as he thinks the very core of the question, demands that we shall judge the determinist theory by asking what actions would result, if the agent were to decide "with the distinct and constant conviction in his mind, that he can do at each instant only what he does, can will only what he wills, can desire only what he desires" (II., p. 325);—the supposition involves an actual impossibility. In cases of choice, up to the very moment of decision, the action being yet inchoate, the agent's position is that forward-looking attitude of mind which is uncertain, and represents opposite alternatives as alike possible. Up to the moment of decision he *cannot* have the conviction that he can do only what *he does*, &c.; because as yet he is doing *nothing*, his doing is still future, inchoate up to the moment of decision. He may indeed pause to reflect, that what he *will do* will be only what he *could do;* but then what he *could do* is the very thing which he does not know, which his choice, still pending, is about to decide. He may, I say, pause to interpose that reflection; but in so reflecting he *abandons* the simply forward-looking attitude of mind, and adopts the position

of a spectator *ab extra,* looking through the spectacles of a *general* truth; from which position he returns before making his choice. It is impossible for him to adopt both positions *at once,* so as to import into the forward-looking attitude the theoretical knowledge of determinism proper to the position of a spectator.

From this forward-looking attitude the sense of freedom is inseparable. And what is important to notice is this, that the agent's safety lies in keeping strictly to the forward-looking attitude. The sense of freedom is a sense of *power;* it increases the force of the will in choosing the best course; which is the true meaning of the *possunt quia posse videntur.* To interpose a speculative reflection on the grounds of that freedom and power, even if it be in favour of the free-will doctrine, is to taint and impoverish the act. It is the origin of Casuistry in the bad sense of the term.

But this same sense of freedom, which M. Renouvier calls *apparent* freedom and *belief* of real freedom, is a fact which in truth carries with it real freedom as its own obverse aspect; real freedom being, according to M. Renouvier, as he frequently states (*e.g.*, II. 61, 89, 322) a doctrine logically indemonstrable, as he holds also the counter doctrine of determinism to be likewise. Determinism then, at least in the form which I have now given it, puts real freedom on a firmer basis than the opposite doctrine even professes to do. Fortunately M. Renouvier admits, that this apparent freedom, this mere belief in real freedom, is a sufficient basis for a whole system of morals, jurisprudence, and politic; to which view we owe what is in my opinion the most valuable fruit of his labours, namely, his great work, the *Science de le Morale,* as I remarked in my former article; and this is the "derogation" which I there spoke of. For if merely apparent freedom is a sufficient basis for a full and final system of practical truth, the discussion of its reality remains invested with a speculative interest only, and the speculative interest is sundered from the practical. In my view they are united; and the sense of freedom is a sufficient basis for Ethic just because it is more than mere appearance and mere belief, in short because it is freedom, the thing itself. Deny the existence of freedom *as antithetically opposed to necessity,* that is, embrace Determinism, and you *eo ipso* assert freedom, both as a reality in itself and also as a firm basis of Ethic, requiring no demonstration but that which is given by analysis of the phenomena.

Coming now to the second branch of the subject, the doctrine of Certitude and its foundation in liberty, the immediate sequel of a passage already quoted, as to the dependence of morals on contingency, will show M. Renouvier's conception of the

relation between certitude and contingency, which is precisely similar:

"Lastly, if everything is necessary, error is as necessary as truth, and their titles are equal, barring the number of men who hold to either of them, which number may change to-morrow. The false is therefore true, inasmuch as necessary, and the true may be false. Madness has nothing against it but its weakness; error, nothing but its inconsistency." (II. 58-9.)

Observe, in the first place, the pure assumption that, if truth and error agree in being *necessary*, they agree in everything; that there is no other essential difference between them. Observe, secondly, the quiet dismissal of a conception which is, I venture to say, essential to phenomenism, namely, that consistency is the final test of truth. For, if not, something *not capable of being in consciousness* must be supposed, as that with which opinions are to be in harmony.

M. Renouvier's argument seems to be:—(1) there must be real contingency, since otherwise there is no difference between truth and error, but (2), if there is real contingency, then *free belief* is the only test of truth, in matters where doubt is possible, because it alone is a *maker*, as well as a perceiver, of truth. "We make error and truth in ourselves, by putting ourselves, after free examination, into contradiction or agreement with external realities, the affirmation of which is not necessarily imposed on consciousness." (II. 349.)

Perhaps the following passage is the highest expression of what M. Renouvier claims for liberty in matter of certitude, showing how far in the direction of *making* truth his theory leads him:

"Whatever may be the thought of the world around us, concerning any of those truths on which men vary from age to age, and on which they dispute, if my conviction is entire, if I hold with all my reason, if I love with all my heart, if I embrace with all my will, the object of my belief,—then the highest degree of certitude is found for me in that which, externally regarded, seems the lowest." (III. 84.)

Liberty, it must be remembered, means, by M. Renouvier's definition, the freedom of the will in reflective action which is emotional and intellectual as well as volitional. It has always a *content* of thought and feeling. This he explains at length, by distinguishing the three elements which are found in cases of certitude produced by liberty; for instance:

"We cannot affirm anything systematically without some representation of a group of relations as true, nor without an attraction of some sort or other which leads us to engage in the truth perceived, nor without a determination of the will which fixes itself at the moment when it might be possible, as it seems, to suspend the judgment, either to seek new motives and reasons, or even to abandon itself simply to the impulses which arise." (II. 136.)

Every truth being formed in this manner, there is evidently a part of it which is due to our choice and will that it should be true. This brings us to what certitude in itself is; what are its nature and characteristics. For since the will enters for something into all truths that are certain, and the mode in which they are established affects them with a certain volitional character, certitude is in its nature a *belief*. We hesitate and then decide; it is therefore also founded on preliminary doubt. The necessity of doubting first, and doubting everything, is strongly insisted on. Doubt is called the distinguishing characteristic of the cultivated and enlightened mind. "On the contrary the ignorant doubt little; dullards less; madmen never." (II. 152.)

That certitude is a *belief*, is the cardinal point in M. Renouvier's theory concerning it. It is not opposed to seeing, not opposed to *knowing;* but seeing and knowing are themselves cases of belief. "We ought to say that we *believe* we see, and that we *believe* we know, and always that we *believe*." (II. 131.) And this is apparently the truth intended, when M. Renouvier says that the central thought of the chapter quoted from is derived from one to whom he acknowledges the deepest obligations, "whom I now must frankly call my master," J. Lequier; and fragments from whose writings, given at considerable length in the present work, are masterpieces of that kind of introspection which consists in tracing back and questioning, tracing back and questioning again, at every conclusion drawn in a train of thought, the validity of the reasons for drawing it. Lequier was a Catholic, but, says M. Renouvier, a very liberal one. His ultimate canon of certitude seems to be this, "We are never sure that there is evidence, but when there is bad faith in doubting". (II. 177.) And again, "A truth superior to all human imagination and idols: that when one believes with the firmest faith that one possesses truth, one ought to know that one believes it, and not believe that one knows it." (II. 195.)

Very good, I reply; there is then, after all, a difference *in kind* between believing and knowing, since you say we ought to *know* that we *believe*. If knowledge were a species under the genus belief, and not opposed to it as species to species under the genus judgment, this difference in kind would be taken away; for we should then have only a greater or less *belief* that we believe, not a knowledge of it. Now nothing can make the word *belief* import a greater certainty than the word *knowledge*. And therefore the very name, the scholastic name, *certitude* is suspicious, implying as it does a belief which is also knowledge, and suggesting a wish to juggle something out of the less certain into the more certain category. The difference between knowledge and belief is for analysis to ascertain; and here again, in my

opinion, it is the very same defect in analysis as before, that leads M. Renouvier to bring knowledge under belief. I mean his failing to see the precise mode in which thought grows out of perception; which vitiates, in my opinion, his account of the part due to volition (liberty as he calls it) in establishing beliefs.

But before showing how this is, we must follow up M. Renouvier's distribution of the affirmed phenomena or judgments which fall under certitude. He arranges them under two Orders. Facts of the First Order of Certitude are (1) the general modes of consciousness, memory, personal identity, the reasoning powers, the categories; (2) a phenomenal external world; (3) the existence of men and other living beings; (4) the general laws of the external world organic and inorganic. (II. 235 ff.) Facts of the Second Order include everything else: "A second order of certitude will embrace the fundamental decisions not admitted into the first. It will be characterised by the larger place occupied by doubt, emotion, and will, in establishing truth, either by individuals or in the course of history." (II. 320-1.)

Doubt and belief apply to all phenomena of both orders, to everything in fact that involves a judgment, or combination of sensations, the existence of which *per se*, and while they last, not even Pyrrhonists doubt. Doubt attaches in a feeble measure to judgments of the first order, in a large measure to those of the second; but still so, that, even in the first order, we are compelled to recognise "that every affirmation of reflective consciousness is subordinated, in consciousness, to the determination to affirm. There is found the explanation, there the leading into captivity of the profound principle of Pyrrhonism." (II. 320.) The classification is not into facts which we can, and facts which we cannot, help believing; but into facts which we have small, and facts which we have great, power of doubting. *Every* fact waits, for its certitude, on our determination to affirm it; and our determination to affirm it is, as we have seen, a concrete fact made up of intelligence, volition, emotion, inseparably united in reflection. Affirmation of that kind is a *belief*.

Now we come to the point where I said M. Renouvier's analysis appeared to me defective. It is true that volition enters into every affirmation, but it does so without regard to the *content* of the affirmation. It has one purpose and only one, namely, to see *what is to be seen*. It is the effort of *attention* which we give to any object, in order to perceive it clearly and distinctly. This makes all reasoning *practical*, even though its object is purely theoretical; this single purpose is enough for that. But if any other purpose or interest is combined with the pure effort of attention, this makes the reasoning practical in an additional

sense; we have then an interest in affirming *this* rather than *that;* in this sense it is not true, that volition enters into all affirmations; and this is the sense which M. Renouvier's theory requires. When it is said that volition enters into all affirmation, it is only as constituting it *formally* that it does so. The *matter* affirmed or denied is not affected thereby. But this distinction, which marks off conception, reasoning, and logical affirmation, from perception, is not drawn by M. Renouvier; who, for want of it, attributes far more than its due to volition in forming beliefs, and erects no logical barrier to the wildest attempts that might conceivably be made by enthusiasts to believe as true what they wish to be so. "Bad faith in doubting," when faith is to be kept only to *self*, is unsound as a criterion of objective truth. Honesty indeed with oneself is an essential requisite; but it is a negative condition only, a *sine qua non;* we may believe many absurdities honestly.

M. Renouvier of course stands perfectly clear of the wish to smuggle foregone conclusions of any kind into philosophy, as the whole tenor of his work shows. What he is looking for is some *synthetic* principle, over and above the categories, but springing out of them, which shall lead to some particular cosmogony, the categories applying to all alike. He adopts what he thinks is the principle of the Practical Reason, and so far I have no objection to make. But I contend that his analysis of the practical reason is wrong, and wrong in a way which gives an illegitimate scope to volition and desire, under the name of liberty, in framing theories. In fact, although all affirmation depends, for its form as affirmation, on volition, yet, as to its content, there are some affirmations which we make because we *will* it, and others which we make because we *cannot help* it. The former constitute belief without knowledge, and are always accompanied by doubt; the latter constitute knowledge in which belief is swallowed up, and of which doubt is impossible.

The question between knowledge and belief is, of course, a very old one. I cannot think that M. Renouvier has made it clearer. It is really one of the questions which depend on a prior, but often tacit, adoption of either an absolutist or a phenomenist view of existence. All knowledge appears to be *belief*, if you tacitly suppose an existence which might *appear* differently from what it does appear. You then ask a reason why this appearance is as it is, or why it appears at all. Then you say you have belief of it, irresistible it may be, but still belief. If on the other hand you take *phenomena* to be co-extensive with existence, then all *constant* phenomena are cases, not of belief, but of knowledge, for there is no further possibility of their contradictories being true. The value and significance of

such constant phenomena may vary with the other facts, in relation to which they stand; but so far as they go, they are irreversible, and we have true knowledge of them, though incomplete. Again, then, we find M. Renouvier, led by his analysis, departing from his own doctrine of thorough-going phenomenism.

The transition to the third branch of the subject, the foundation of liberty in the nature of things, may be shown best by a passage in which "liberty in itself" is treated:

> "I shall complete the definition of liberty, to justify belief in which is the object of this chapter, by characterising it as the ultimate essence and proper substance of the human person, or, continuing to use the scholastic terms, as the principle of individuation of that person". (II. 359.)

He regards it as a "primitive fact beyond which we cannot go" (II. 364); refusing to consider the idea that it is produced in us by the creative will of a prior being who is himself free, as an explanation. This, he truly says, would be only assuming the same fact twice, putting "creation of creation" in place of creation simply, and "liberty to create free beings" in place of liberty alone. (II. 362-3.) Neither will he regard liberty as explained by saying, that it is the necessary outcome of causation. Causation can never explain how a "power of escaping causation" can exist. "Causality, I have often repeated, does not explain the effect by the cause, unless the proper nature of the effect enters into the definition of the force" [producing it] "and consequently of the cause itself *qua* cause, which destroys the pretended explanation." (II. 365.) Very true. Freedom, in M. Renouvier's sense, cannot be explained by causation. But in that case what becomes of the category of causality, as an ultimate law, of which *the will* is, as we saw in the *Logic*, the chief instance? Here is, apparently at least, an admission that it breaks down at the crucial point.

In fact, at the beginning of this third branch of the subject, a complete change in the point of view takes place. Hitherto M. Renouvier has been demonstrating the fact of liberty in the will; now he is seeking the *ground* of this fact. His solution is, that the ground of liberty in the will is liberty as the principle of individuation; "an aptitude of man to reflect, to deliberate, to will, to create by will, instead of yielding to the *vertige* of representation"; "a power to dominate *(primer)* his other functions"; a power "not self-caused but a datum"; and "establishing itself at the passage from the animal to the human nature" in him. (II. 360.) Liberty is thus the cardinal and general fact, of which will is a case. Accordingly, to render it in some sort intelligible, he has recourse to an earlier category, that of Becoming, *Devenir*. "The true doctrine of liberty," he says, "makes us consider the world as an order which *becomes, and makes*

itself, (devient et se fait), not as a *pre-established order which has only to unroll itself in time.*" (II., p. 364.)

Human liberty has thus its root, so to speak, in nature at large. But how, it may still be asked, does this explain that feature of liberty whereby it is the "fact of commencement," "commencement itself, the existing being itself, without other possible explanation," as M. Renouvier characterises it farther on? (II. 366.) The only answer is, that it does *not* explain it; this category also breaks down:

"The mystery of liberty is the last and highest form of that mystery which we have touched in the fact of pure actual becoming, in that of first commencement, in that of an existent *(de l'être)*. The mystery of primordial data is the inevitable extremity of speculation and of things, for everything has had a beginning, the prior process *in infinitum* being contradictory." (II., p. 366.)

The *devenir* is thus one form of the mystery, and liberty is another. But why a mystery at all? I see only a mystification. A first or uncaused commencement is no mystery, but a gratuitous puzzle. It is imported by the theory, not found in the facts. It comes from taking categories, or laws of thought, as the ultimate laws of consciousness, and letting them override *time* as a form of perception. The form of *time* then asserts its real power over thought, and you have the contradictory notion of a *first beginning*, which, as *first*, presupposes time both before and after it, and yet as *beginning* has nothing before it at all. There are doubtless mysteries in the world, but this is not one of them.

How real contingency is possible, how it can even be construed to thought, is also left unexplained. It is taken as part of the ultimate fact of liberty. We must believe it, whether we can understand it or not. Yet to believe what we can *in no degree* understand, is to believe an empty word. Elsewhere *(Philos. of Reflection*, II. 414-22) I have endeavoured to show that real contingency, that is, contingency involving opposites equally possible *in fact* as well as in our representation, is not thinkable; it is a word and not a thought, consequently not a reality. Yet before evidence in its favour is admitted from liberty, from morality, from certitude, the *logical* possibility of the thing itself ought certainly to be made clear. Without that, it is only a difficulty the more, in the way of accepting liberty itself.

Against this "nest" of contradictions resulting from M. Renouvier's theory he would, I suppose, set off the one contradiction which he imagines to be involved in the determinist theory, that of a *realised infinite*. But this, as I have shown in my former article, does not attach to any theory so far as based upon forms of perception, as determinism is, whatever it may do

to scholastic hypotheses of " substances ". Liberty and Infinity are notions which go naturally together, being alike based on perception ; but once close the circuit, so to speak, by introducing either the notion of substance or categories of thought as ultimate, and then liberty can be had only at the cost of contradiction. M. Renouvier has the choice : either liberty is true, and then the categories are insufficient, or the categories are sufficient, and then liberty is a delusion.

The conception of liberty as the essence of man carries us over at once to the third Part of the *Psychology*, that which treats of " The Probabilities concerning the moral order of the world," and has for its themes, Immortality, Liberty, and God. Here we enter upon ground the possession of which is the peculiar characteristic of M. Renouvier's sciences of *Critique Générale*, namely, upon the unseen world of probabilities and belief which those sciences embrace at once and together with the seen world of positive science. Before closing the second Part of the *Psychology*, an admirable classification of the sciences is sketched out, based on the old threefold division into Moral, Logical, and Physical, and *(inter alia)* reconstituting the Moral group by referring its sciences to the larger head of General Criticism *(Critique Générale)*, thus giving them a distinctly philosophical basis. The results are tabulated in the Summary *(Formulaire)* appended to the *Psychology*, which will be found an useful aid to students.

Moral liberty is the efficient link between man in his mortal state, in the seen world, and man in his immortal state in the unseen world. " Immortality is the right to progress, liberty is the using it." (III. 180.) As to the third problem, the nature and existence of God, two aspects must be distinguished in immortality, one relating to the individual, the other to the constitution of the world which makes individual immortality possible, " a most general law which assures the means of realising individual ends ". The object of this supreme conception is God. (III. 185-6.)

Now the conception of immortality and that of God depend, apart from their realisation by liberty, upon a category or law of their own, namely, upon the category or law of final causation *(Finalité)*. What is the validity of this conception, and what application are we entitled to make of it ? Here M. Renouvier's analysis is excellent. Final causes, he says, have no place in the special sciences, which are or ought to be occupied with efficient causes only. They are essential, on the other hand, to the moral and political sciences. (III. 109.) This by no means implies that they are not traceable in the phenomena treated by

the special sciences, but that, where they are so, they are imported by the modes of observation or reasoning which man brings with him.

There are two ways in which final causes may be regarded; first, the relation of means and ends may be contemplated simply as fact; secondly, it may be contemplated in its origin, as in putting the question whether design implies a designer; and M. Renouvier keeps strictly to the first. (III. 112, 115.) "Every change implies a final cause *(fin)*." (III. 113). Still in the inorganic world this relation is shrouded in obscurity. It is in the organic world that it begins to be clearer, and more and more so as we ascend the scale; so that there we can describe it by its general characteristics, as a mutual adaptation of properties to functions, or in M. Renouvier's words "the constant arrangement of facts for constant ends" (III. 113), and say that, with regard to the individual, "the law of final cause, recognised in the individual being, may be strictly enunciated as *the existence of a destiny* of that being; for a destiny is nothing but the end which we spontaneously pursue in virtue of an order established in nature." (III. 124.)

This brings him directly to state the question of immortality: "Can we make a legitimate induction, from the known and partial destiny of certain individual beings, to a general and indefinitely prolonged one of the same beings?" (III. 125). His answer is *yes*. If ends are to be realised at all, it is for *individuals* that they must be so; since it is only for an individual that an *end* has value or even meaning. "Shall we console Sisyphus by promising him annihilation and a series of successors for ever, to roll his stone still higher, the stone always to fall back, the successors always to be annihilated?" (III. 131.) But are ends to be realised at all? The affirmative is implied in the law of final cause itself. *Some* fulfilment it must have:

> "When we look at the ends which appear to be implied in those relations which are known to us, we say that the laws of the universe tend to constitute individual beings and to preserve them; and we believe, by an induction thenceforward legitimate, due to the moral forces of consciousness, that these beings are temporarily and for sense effaced at certain points of their career, because they are a part of vaster, but equally individual, functions, the course of which is withdrawn from our actual means of observation." (III. 130.)

This of course is a mere outline of the argument. Its strength lies in showing what those "known relations" are, which point to a fulfilment after death. What M. Renouvier has chiefly in view is the moral law, and its ideal harmony, which cannot be realised for individuals on earth. He builds also on the instinct of immortality, which he says points to a realisation of some sort

or other. (III., p. 170-2.) The real question is,—of what sort? Now the two tendencies spoken of in man point to the two characteristics of the realisation; the first is virtue, the second happiness, and the realisation of both must consist of the harmony between them. On the other side, two facts militate against the realisation of this harmony; one is physical evil, which is summed up in one word,—death; the other is moral evil, of the existence of which there is but one explanation, and that is the fact of liberty, and but one cure, the exercise of liberty. The moral law is a real cause acting efficiently in nature; it changes the state both of individuals and of society. There is progress towards an ideal end, the harmony of virtue and happiness, effected by means of liberty, along with diminution both of physical and of moral evil. Death only remains wholly unaffected. We ask then, Is death annihilation of the personality? Nothing ever has proved, or ever can prove it. Against it we have the whole force of the facts which constitute man's moral tendencies, powers, and ideas.—Such is briefly M. Renouvier's argument, the gist of which I have tried to gather from various passages (*e.g.*, III., 154, 155, 171, 172, 181-4). But I must remind the reader that it cannot be properly appreciated from so brief a sketch. I pass over, too, his subtil and acute criticism of Kant's theory of the practical reason, in its bearing on the three problems which are to both of them the great problems of philosophy. Unwillingly, but my limits are all but reached. In fact to treat properly a work so full of varied matter as M. Renouvier's would require thrice the space at my disposal.

I pass over, too, his critical sketch of the various hypotheses which may be entertained as to the conditions of existence of immortality, its "physical means" as he calls them; remarking only that it will well repay study; and this brings us to the last chapter of the work, "Rational Hypotheses as to the nature of God". On this subject, and with reference to this chapter, I have already spoken in my former article, in connexion with the question of Infinity. I need not dwell upon it farther.

Some few general remarks only I would make on the whole method. Rightly in my opinion does M. Renouvier take the *practical* reason as his clue to the unseen world, a future life, and God, as Kant also did; and rightly also does he reject, what Kant retained, the *non-phenomenal* character of the unseen. But there is a distinction wanting in his system, owing to imperfect analysis, which makes his whole theory insecure. There is wanting the distinction between what we must necessarily think as belonging to the unseen world, and what therein is matter of probability only. Without this distinction, the whole content of the unseen world becomes merely probable, and at

the same time its anthropomorphism becomes more full of detail. The categories are so coarse an instrument, that on the one hand they do not permit us to distinguish knowledge from belief in kind, but only in degree, certitude itself being set down as a belief; and on the other, they include so much, they let pass so many particulars in which the unseen world must resemble the seen, that it becomes a mere reflex of man's nature. Man psychological, so to speak, is carried over into the unseen world, and not merely man metaphysical; since functions corresponding to all the categories may be employed with equal right in endeavouring to imagine it.

It is on two and only two grounds, in my view, that we *must* affirm the existence of the Unseen, which are therefore also the only strictly *necessary* elements in our conception of it, (1) the fact that infinity and free action are bound up *as percepts* in all objects of thought, and (2) that the law of thought itself, its form not its content, involves attention, and therefore expectation of a better. These and these only are the elements in the analysis of consciousness which *necessitate* the affirmation of an unseen world, and are the *necessary* features in it for consciousness. The rest, the filling up of the picture, as we may call it, are what M. Renouvier represents *all* knowledge to be, probabilities greater or less, objects of belief.

In filling up this picture of the unseen world, the moral law with its content, the moral nature of man in the concrete, is, as M. Renouvier most truly holds, our only sure guide. But to apply this alone, to apply it as if it were the whole of our means, that is, without drawing the distinction of what is strictly necessary in it and what is not, is really to dwarf the unseen to the measure of the seen, to reduce God to be *only* in the likeness of men. It is carrying anthropomorphism too far, by making too unrestricted use of it.

On the other hand, philosophy cannot affirm the existence of God, as a *necessary* truth. It belongs to the filling up of the picture, not to its necessary outline, to its content not to its form. When God's existence is affirmed to be necessary, the necessity is in the *feeling* not in the *thought;* and the thought follows and depends on the feeling. It is a *belief* founded upon *love;* that is to say, it is *faith*. The logical validity of this belief, or in other words, the *right* to believe, *if* you have the love, is assured by philosophy, inasmuch as it shows that disproof of it is impossible. But the *positive* motive is for religion, not philosophy, to supply.

All the objections, then, which I have found myself obliged to make to M. Renouvier's philosophy, resolve themselves into an

objection that his analysis is not pushed far enough, leaving untouched his general basis of phenomenism, except so far as it is imperilled by imperfect analysis. In the present article the main points of objection have been three: (1) the connexion between metaphysic, or logic as he calls it, and psychology, (2) the doctrine of liberty and contingency, (3) the construction of the unseen world. As to the first, he does not seem to have sufficiently distinguished between subjectivity in *philosophy* and subjectivity in *psychology;* between consciousness or *représentation représentative* as equivalent to all its objects or *représentés*, πάντα τὰ πράγματα, and consciousness in its history or mode of completing its system of *représentations représentatives*, in which it is specially dependent on one among all its *représentés*, namely, the living organism in connexion with which it seems, in each instance, to arise. As to the second point, the profound conviction of the fact of freedom has led him, in the absence of a distinction between percept and concept, to a theory of freedom in which it appears as the contradictory of necessity, and so succumbs to the reflection, that without necessity there is no thought. As to the third point, there the defect in analysis consists in not distinguishing precisely what are the necessary elements in all thought, as contrasted with those parts of the content which are not necessarily combined with them.

All these questions are, I think, fairly open to discussion. Far be it from me to dream of dogmatising upon them. And no one can be entitled to be heard with greater respect than M. Renouvier himself, no one can speak with greater weight. In any case the fundamental, or as he would say *enveloping*, doctrine of Phenomenism is secure, and constitutes the very atmosphere of thought, in which alone all further discussions can live and move. Without such a basis being laid, the bearing of all arguments, whether analytic or constructive, is liable to constant misconception; and such a basis M. Renouvier has been the first to lay, in his system of philosophical phenomenism. Philosophical, not merely empirical; not phenomenism of the kind which turns away from, but of that which faces, the ultimate problems of thought. With Philosophical Phenomenism M. Renouvier's name and fame will be indissolubly associated.

Shadworth H. Hodgson.

III.—THE LOGIC OF DICTIONARY-DEFINING.

THERE is great scope for the operation of logical principles in the field of Dictionary-defining (taking that word in its widest sense as including all the modes of grouping and of setting forth the meanings of terms), if only these principles were firmly grasped and consistently applied. But, unfortunately, lexicographers in general have not been ambitious in the matter of logical attainment, and, confining ourselves to English, the latest of them have failed to diminish the shortcomings of their predecessors. Indeed, we may rather say they have signalised themselves by making several conspicuous additions. For, aiming at comprehending in one work a variety of distinct provinces, they have dissipated the strength that they ought to have concentrated, and what behoved to be their main object has been subordinated to others of an inferior rank, or else has been so combined with them as to suffer seriously from the process. The result has been exactly what we should have expected. In the attempt to do many things, nothing has been done well; and our dictionaries, as a rule, are in a lamentably unsatisfactory condition.

Our quarrel with them is twofold. On one hand, they contain a mass of confusing mischievous extraneous matter; on the other hand, they are vitiated by many grave defects of order and of method. Their errors are partly of omission, and partly of commission. On the side of commission, we have the attempt to define the undefinable, an inordinate and misleading use of etymology, an altogether inadequate conception of the range of correlativity and of its value: and, on the side of omission, we have the total want of discrimination of synonyms, the ignoring of certain useful defining expedients (*e.g.*, adducing an apt and easily-intelligible phrase), little or no systematic grouping of the various meanings of words, or else grouping on a plan that breaks down in the working, and (not to multiply particulars) the absence of any consistent separation of the scientific and the non-scientific significations.

It will now be our object to follow out these things a little in detail; noting as we go along the weak points in the ordinarily-accepted methods of word-handling, suggesting modes of improvement, and using the accredited dictionaries in illustration.

Definition.

We start with the subject of defining, strictly so called. It is of first and vital importance that the dictionary-maker should

have this subject thoroughly at command. Nothing less will serve than that he be fully master of the logic of the matter, and both willing and able to apply it. He must have continually before him the marks of a good—and, therefore, of a bad—definition *(i.e.*, he must, as far as possible, avoid tautology or repeating in an altered form the word to be defined, inadequacy or not emptying the term of its whole contents, complexity or the use of terms more difficult to understand than the one to be explained); he must know what words can and what words cannot be defined; he must have a clear insight into the "content" of terms, so as to be able to exclude irrelevant significations and to discriminate subtle shades of difference; he must be familiar with the principles of Classification and of General Naming; and he must know and, as far as may be, respect the doctrine of logical Division.

To begin with the most fundamental of these points—the definable and the undefinable. Of the latter class are all *ultimate notions*, and many notions that, although not ultimate, yet cannot be understood without experience of the thing itself. To the former class belong the vast majority of terms; all that remain after the undefinable and the partially definable are subtracted. But between the two classes there lies a disputable region—*Lucanus an Apulus anceps*—and the exact boundaries of this region may themselves be matter of debate. Speaking generally, it contains a number of derivative terms that may be defined with effort, but that, nevertheless, are practically useless until the situation represented by them actually occurs; terms in whose case a verbal description conveys to the ignorant no idea whatever or only an idea that is very vague and hazy. A just appreciation of these distinctions would at once suggest the proper modes of treatment; but a just appreciation is exactly what we look for in the dictionaries, and do not find.

Ultimate notions cannot be defined. Yet let us turn to any of the best and most widely-used dictionaries, and at every step we see this fact ignored, and laboured descriptions offered of what is to be settled simply by an appeal to individual experience. We have indeed got beyond the stage that irritated Locke when Motion was set down as "the act of a being in power, so far forth as in power," and Light as "the act of perspicuous, so far forth as perspicuous"; but the principle that prompted these ridiculous performances holds its ground as ever. Motion is still "change of place, or change of posture," as though change did not itself imply motion; and Light is "that which shines and enables us to see, or which produces vision," in entire oblivion of the circumstance that shining, seeing, vision cannot themselves be understood without a reference to light. Life, again, is some-

times represented as "vital force," sometimes as "state of living," sometimes as "animate existence"; and we swallow it all as though in these phrases we were imbibing real knowledge, or, perhaps, we are best pleased with the effort that describes it as "that state of animals and plants in which the natural functions and motions are or may be performed". Heat, again, is given as "sensation of warmth," and Warmth is referred back to heat, in profound unconsciousness that the operation borders on the ludicrous; while the changes are duly rung on Form, Outline, Shape in order to produce Figure, and Figure in turn plays an important part in producing them. The whole class moves in a vicious circle, or else is set forth in inadequate explanations; and, either way, incalculable damage is done to the public understanding, which accepts all in entire simplicity and has no conception of the sleight-of-hand that is being practised on it.

The thing, then, to be fully realised at this stage is, that in every simple idea or ultimate notion we have something that must be started from, something that must be taken for granted, something to be referred to individual experience, and that—except in the case of correlatives, where, together with a thing, we can produce its opposite—nothing can be done in the way of making the meaning more intelligible or clearer. When we have said of Light that it is the opposite of Darkness, with a partially opposed correlative in Shade, we have said all on the subject that words can say. Cold and Heat are mutually implicated, and their names may be brought together with effect; but beyond that we cannot go. These experiences, one and all, are ultimate, and as ultimate they must be accepted, and the words that stand for them must be allowed to stand without note or mark or comment.

But what is true of ultimate notions without exception, is also true of a large class of derivative notions,—of such as, although not primary elements of our sensibility, yet refuse to be made plainer by verbal analysis. Of this kind are many of the statical and dynamical conditions of matter and, more especially, certain acts, attitudes and movements of the body—sit, stand, lie, hold, fall, rise, carry, walk; of this kind, too, is much of our complex mental furniture—fear, love, wonder, trust; and of this kind are many of our social relations—help, take, give, get, bring, say, shew, ask. It can scarcely be said that these are ultimate; and yet, in trying to make them intelligible by verbal description, we simply "multiply words without knowledge". Thus, we take Help; and, on turning up the dictionary, we find it described as "aid, assist, relieve". We next turn to Aid, and the definition is—"help, relieve, assist". Assist, in like manner, is—"aid, relieve, help," and Relieve is "help, assist, aid". It is similar

with Hold, Give, Get, Stand, and the others. They all move in a uniform see-saw, and when we reach the end of each round we find ourselves exactly where we were at the beginning. Now there is, manifestly, much to be complained of here; but with a little care and attention matters might be mended. For it is to be observed (and the fact has some philosophical interest) that undefinable terms are as a rule prolific in (so-called) synonyms. If, then, the terms themselves were left as undefinable and their synonyms, with the necessary discriminations, arranged under them, all would be plain. Let Help, for instance, be frankly stated as strictly unexplainable, or, which is the same thing, let it be left with definition blank, and then let the allied terms—"aid," "assist," relieve"—be given under it as species of helping with the necessary distinctions, and let the same plan be adopted with Give, Get, and the rest, advantage being taken of contrast where contrast is of service,—and at once the confusion disappears, and just notions of the nature of this class of terms are imparted. It is thereby shown to all and sundry that to demand a set definition of each and every word in the language is wholly unreasonable, and that the attempt to meet this demand is simply vicious and illusory. There is indirectly taught a valuable and wholesome lesson in Logic, and grateful light is cast upon the eyes that must otherwise remain in darkness.

It is perhaps slightly different with the third class of undefinables, and here a margin must be left to the discretion of the handler. If it is possible *even with an effort* to reproduce verbally such situations as are represented in—buy, sell, promise, breathe, chew, choke, ruin, threaten, lend, borrow, start, refuse, there will always be a temptation to give the definition; but, in many, if not in most of these laboured efforts it will be found that, however exact they may be analytically, they fail to make themselves intelligible unless first the situation they depict has been matter of experience, or unless it can be shown there and then to the eye. In these, as in the previous cases, "a view of the thing itself is its best definition," and where this cannot be had, it is on the whole desirable to keep back the verbal presentation and to be content with a simple blank.

But in some cases this *can* be had. We know the power of illustrative engravings; and these, when appearing in the pages of a dictionary (if they are good and judiciously selected), afford a considerable aid towards elucidation. They are no mean help in the case of the partially definable, and may be serviceable also where definition strictly is out of the question.

But what now of those terms that are quite within the scope of definition—terms that do represent situations that can be verbally reproduced?

One mode of treating these (an inferior one) has already come before us. We have seen the use to be made of correlation in certain instances; we have only now to recognise that correlative presentation may be more widely useful, and that, as a general supplement to a strict logical analysis, it is an important auxiliary: indeed, it is but logical dichotomy or bifurcation in a particular application of it. Correlatives are either diametrically opposed (as light—dark, up—down), or their opposition is simply partial (truth—error, man—woman, father—son)[1]; but in either case, the method holds, and, in either case, adducing the correlative is like bringing forward an apt illustration—it illumines by a very simple contrivance.

There is need, however, of caution here. Our dichotomy is not of that type represented by the stock example, "Man—not-man": where neither word nor thing is countenanced in current-English. *There* "not" or "none" is employed to mark the negative side of a thorough-going bifurcation; the term to which it is attached is made to gather up in it the whole of the particulars excluded by the other term set over against it in the particular universe: but in English (according to established usage) "none" or "not" conveys the notion of *irrelevance*. When we say "non-moral," we do not simply intend to complete the universe of which "moral" is the other member; what we mean is, that, as to the case in hand, *morality* has simply nothing to do with the matter. And then, as to the process itself, it is too vague to have much practical utility. What we want, commonly, is an antithesis of a different and more decided character; and this, where we have not two separate words for the purpose, is readily enough found in expressive prefixes—such as we see in "immoral," "irrational," "unreasoning," and the like.

We have next the help of etymology. But how far does this extend? It is here that we join serious issue with the dictionaries.

That etymology *has* considerable value for the purpose in hand, cannot reasonably be doubted. It often grasps with great exactness the central idea of a term, and thereby supplies the key that will unlock the door. But oftener still it is beside the point and will mislead us. There can be no question that many etymologies are such as to be quite unmeaning to the ordinary intelligence, and their effect is simply to breed confusion. Of

[1] Correlatives are also contextual. Thus, owing to the particular conjunction of words in a narrative, "attack" may be made to assume the form of a correlative to "resistance"; but the natural correlative of resistance is "submission," and the true correlative of attack is "defence". Contextual correlatives (like contextual synonyms and contextual meanings) should have no place in a dictionary.

this class are—tragedy, comedy, metaphysics, star, planet, stage, bizarre, and many more. It is equally unquestionable that there are others that are not simply unmeaning, but that produce absolutely false and erroneous impressions. No one coming for the first time on the word Manufacture would be able to extract its correct meaning from any amount of study of the etymology. "Something made by the hand" must at best convey but a very meagre idea, and the idea is worse than meagre when we remember that manufactured articles are now-a-days mostly produced by machinery. The word Poison, from *potio* (a drink), will scarcely of itself suggest the current signification; neither will bare etymology serve us in—asylum, automaton, barometer, manifest, malefactor, sophist, impertinent, extravagant, plagiarist, martyr, and unnumbered instances besides.

The rule, therefore, to be laid down is, that in every case where the etymology is either unmeaning or misleading, it should be wholly ignored. It ought to be introduced only where it serves to make clear the central thought of the term under consideration, and then, in that case, it ought not to be brought in simply as a parenthesis, but should be worked into the definition itself.

That is the rule: and, in the face of present usage, it may seem a bold step to bring it so emphatically forward; but the need for a strict observance of it is most imperative and urgent,—as will be seen by any one that cares to open a modern dictionary and to note the evils that persistent infringement of it has produced. To this cause (if we mistake not) he will ascribe much of the inconsistency and confusion that he meets with; but we shall be greatly surprised if he does not ascribe to it also much of the current bad definition, and, especially, that inveterate lexical evil habit of trying to define the undefinable. Lexicographers seem to have thought that giving the root-meaning of a word was actually defining, or, at least, that it was the first step towards the achievement; the next being simply a move forward—on the same line or in the same direction. At the very opening of their course they went astray, and promiscuous etymology misled them.

In dictionary definition, much use is naturally made of *per genus et differentiam*. Great care, however, ought to be taken in the application of this method; for genera, although logically simpler than species, are not unfrequently hard to understand, and it is no easy matter sometimes to grasp the nature of a specific difference. It is important also to take care that, when once a genus is fixed upon as the point of reference for a series, it shall be rigorously and consistently adhered to throughout the series. Thus, we agree to define the following by genus and difference, and we adopt as our genus Relation. We obtain

under it as species, with their specific differences—Proportion, Ratio, Symmetry, Rhythm. It certainly would not conduce to clearness if, in the definition, these terms were referred—one of them to Relation, another to Proportion, another to Ratio, and so on; much less if they were used indiscriminately: skipping thus from genus to subaltern genera is practically most objectionable. Yet this is what we actually find in common use. In a received authority, Proportion is given as "comparative relation of parts, portions, shares," &c. Immediately after, it is put down as "identity, similitude, or equality of two ratios". Then it stands as "symmetry". In the same work, Ratio figures *inter alia* as "proportion," "relation". Symmetry is "due proportion," "a certain relation," "proportion" simply. Rhythm is "symmetry of parts," "proportion"; while Relation itself is "ratio," "proportion". And this is but a type of a very common confusion; found, not in one dictionary alone, but more or less in all.

But besides strictly defining, and occasionally in lieu of definition, it is sometimes useful to take advantage of an apt and striking phrase, especially if that phrase happen to be well known and commonly received; just as it is useful in treating abstract notions to adduce well-chosen concrete examples. In this way, Exacerbate may be represented as "adding fuel to the flame". "Man of parts" is a very good substitute for a Wit. Irresolute is "without ballast". "Silent as the grave" well expresses what is meant by Taciturn. We exactly hit the idea of Consequentiousness in the familiar expression "large as life". Amend is "to turn over a new leaf": and Dwindle is to "grow small by degrees and beautifully less". The practice, obviously, has its value; but it is a practice that lends itself very easily to abuse.

We have already spoken of logical dichotomy in its connexion with correlation. Curiously enough, the dictionaries have tried it mainly in that sphere where it is not applicable. They have confined it to correlatives of negation, to those words distinguished in our language by means of the prefixes *dis*, *un*, &c. But it is just here where it does not hold. In very many cases, we cannot adequately translate these prefixes either by "not," or "want of," or "without". Plainly, these negatives cannot mark *degrees* of absence or privation; neither can they express more than the mere negation implied in a term, whereas it is often requisite to take notice of the positive idea conveyed, and, in some instances, the positive idea is the chief one. Thus, Difficult is but meagrely defined as "*not* easy"; "not seemly" fails to bring out the notion of offensiveness that Unseemly contains; Untrue and Irreligious have elements of falsehood

and impiety in them that the negative rendering allows to escape: and the inadequacy of the method is further seen if we operate on such terms as—disaffirm, disrepute, disregard, disaffect, disallow; indifferent, illogical, impertinent, infinite; unclean, unholy. But the remedy is not far to seek. Where simple negation or privation alone is present, let the common rendering be retained; where special degrees have to be marked, it will not as a rule be found difficult to obtain appropriate expressions; where the positive ideas come prominently forward, why not refer to these direct? There is no particular objection to our representing Disaffirm as a species of contradiction, or Untruth as a species of falsehood; Uncleanness is the presence of nastiness and filth, and Illegal is what is contrary to law. We may perhaps trace the common practice to a desire for uniformity of rendering, or, more probably, to an undue regard to etymology. But uniformity of rendering is one thing, and exactness of rendering is another; and it is the very end of definition to be exact, even should the letter of etymology be interfered with.

Exactness, however, must not be confounded with logical sufficiency. The former is always indispensable, the latter is in some cases beyond our reach. We refer particularly to Natural Kinds. In dealing with these, considerable latitude must be allowed in a dictionary,—ranging from a simple appeal to individual knowledge to an attempt at enumeration of properties, clenched with Dr. Reid's much ridiculed *et caetera*. Incompleteness is not the only defect here; there must also be a freer use of the separable accidents of a thing than Logic would willingly sanction, and some of the defining canons must be content to relax their strictness. We do not, of course, mean this as an excuse for rough-and-ready methods of defining, or for slovenliness of execution, much less do we intend it as an encouragement to purposely bad definition; we simply state a fact, and draw attention to a peculiarity of the dictionary, for which there seems to be no thorough-going remedy. In the animal, vegetable, and mineral kingdoms, insignificant properties may be used for discrimination, and descriptions scientifically insufficient may serve the turn. Thus, Horse, in the animal world, cannot be otherwise defined in a dictionary than as a well-known quadruped, used as a beast of burden and in war; even although there may be other animals (*e.g.*, the elephant) that would answer to this description. Cat, Dog, Hen are similarly situated; an accident or two must serve to mark them off: and so with the others. It is the same in the kingdom of minerals. Gold is sufficiently defined for dictionary purposes when its colour is specified and its weight and value assigned, when it is given as—yellow, heavy, and the most precious of the metals;

and there would be an exuberance of detail if we noted furthe its use as a coin of the realm and the fact that it does no tarnish. A few of the properties of Oxygen, followed by an *e caetera*, is all that can be insisted on in defining that term; whil Carbon, Hydrogen, and the others must be content with similar treatment. It is still the same in the world of plants A sense of the ludicrous may prevent our following the commo practice and defining Cabbage as "a culinary vegetable whic grows into a *head*"; but all the same we cannot here insist o fulness any more than elsewhere; less must satisfy us tha what would be demanded by the strict logician.

And yet the handling of this department need not be so ver inadequate as it usually is. Comparatively insignificant mark may in certain cases be adduced, but there is a limit to this an a rule has to be followed. Not every mark will suit the purpos in hand, nor can we dispense with the necessity of a studie and careful selection. Guidance, in any particular instance may be got from an examination of the different accepte meanings of the term in question. Thus no definition of th word Horse will answer that does not refer to that animal's us in warlike operations, for it is this warlike employment tha gives us the signification "cavalry". Those attributes of Ca and Dog, again, must have a place that give us "feline" an "canine". "Aquiline" and "bovine" point to qualities tha must find their way into our descriptions of Ox and Eagl The bigness of "the largest quadruped" yields "elephantine" and no definition of Gold will be sufficient that does not contai a reference to its colour, which supplies us with the distinc meaning "golden". The marks may not be scientific, they ma not be the deepest and most important, they may not even b exclusively distinguishing marks; but if they be such as hav struck the common intelligence and have become embodied i the language, we dare not omit them; they are material to b utilised and worked upon and added to, if we care, but not to b summarily dispensed with.

This insufficiency, however, is not confined to Natural Kinds it has wider, far-reaching bearings: and what its nature and it limits are will be seen from the answer to the following question —How far is the lexicographer at liberty to alter the signification of words? Is he rigorously tied down to the common denotation It is his function to give us meanings, but these meanings mus be such as are in actual use: can he do anything beyond? On thing is plain and evident, that he must not omit in his defini tion of a term any legitimate constituent that has given rise t separate *senses:* his analysis must be thus far complete that i excludes nothing that popular usage has rightly included. Bu

further, if he does go beyond the sphere of popular inclusions, he must be careful to import no element that would militate against these; he must not so revolutionise as to overturn the established denotation. Hampered by these conditions, it is plain that his operation must sometimes fall considerably short of the highest point of logical attainment. He cannot reconstruct classes; he is subject to an imperious dictator whose regulations he may surpass, but which he cannot go against; he need not be logically inaccurate, but he must sometimes rest satisfied to be logically insufficient.

We may exemplify with Cause. The two ideas of this word giving meanings are Power and Origin. Any analysis of the term must cover these; but if, in view of the philosophical associations attaching to *antecedence*, it were thought proper to include this also, or rather to give explicit expression to it, the thing could easily be done. That notion does not shut out a single constituent entering into the vulgar conception, neither does it introduce a revolutionary element; it simply gives fulness to what was before needlessly incomplete.

It is different with Monarchy. We know how logicians have treated this, and what is the view taken of it in political science. Monarchy, we are told, is to be restricted to *absolute* monarchies; *limited* monarchies are Republics. But the lexicographer cannot listen. Monarchy is not commonly employed in this restricted sense, and *he* is not the person to confine it. Limited or absolute, Monarchy is for him "government by a sovereign," and "government by a sovereign" it must remain.

His function, then, determines the limits of his operation. It is not his to overturn usage. The most that he can do is to accept the best usage and, for the rest, to wait till this best has grown better—till men's notions have expanded and improvement has been made in their modes of giving them expression.

Synonyms.

From Definition, we turn next to the discrimination of Synonyms; a point of considerable logical interest and of great practical importance, but entirely unknown to the dictionaries. It consists for the most part in tracing specific differences, and is often a matter of great delicacy of operation. Of course it cannot, under the limitations of space imposed upon a dictionary, appear there to full advantage; it must necessarily be incomplete, though, so far as it goes, it ought to be exact. Incompleteness, as we have just seen, is the besetting sin of lexicography; but it need not be greater than is absolutely unavoidable.

In most languages synonyms are abundant; and they afford us, on examination, a means of drawing very important philosophical conclusions. Thus, when we find Hebrew rife in words expressive of religious and ethical ideas, we may infer from that circumstance alone the mould in which the Hebrew mind was cast, and the nature of the objects that most occupied the Jewish attention. Again, from the abundance of psychological and metaphysical terms in Greek, we see at once the distinguishing peculiarity of the Greek genius,—its leaning towards the intellectual and the philosophical; while the practical character of the Romans is gathered from the abundance of Latin synonyms in the sphere of the social and the useful.

This tendency to multiplication of synonyms—which increases with the increase of a nation's experience and with the advance of accuracy and precision in thinking—creates no small difficulty in the handling of words. It calls for subtle discriminative powers, and necessitates devices suitable for presenting to the eye, as well as to the mind, those shades of meaning that the different allied terms are intended to convey.

The difficulty, great in all cases, is particularly great in English, from the circumstance that English is a *mixed* language. Partly Norman, partly Anglo-Saxon, its terms intersect and overlap in a wonderful and perplexing fashion, and words originally coextensive in their uses soon separate and acquire distinctive significations; they are rarely, throughout the length and breadth of their application, identical.

We may illustrate with Happiness and Felicity. These were no doubt at one time equivalent: the second is just the Latinised form of the first. But, through lapse of time and from a diversity of causes, the second has contracted shades of difference that the other is unfit to exhibit. "He expressed himself with much felicity" is by no means the same thing as "he expressed himself with much happiness," while "happiness of diction" is but a sorry substitute for "felicity of diction". So, too, with Fidelity and Faithfulness: both originally equivalent, their present uses are far from coextensive. It is the same with Ease and Facility, Brevity and Shortness, Levity and Lightness, Luminous and Lightsome, and a host of others. Rarely do we find a Saxon term that tallies in all the extent of its meaning with one of classical formation, and *vice versâ*; and it is simply misleading to place the two side by side as exact equivalents without any attempt at discrimination.

But even within the *same* branch of the language discrimination is needed. Conjecture, for example, is Latin; so too is supposition; but the terms are not interchangeable: neither are Theme and Topic (from the Greek), nor Kind and Kindly (from

the Saxon). The distinction has to be noted between Termination and Finale, between Temporary, Transient, Transitory, and Fugitive, between Flare, Flicker, Glare, and so forth; while double non-Saxon equivalents (such as, Nomenclature and Phraseology (Greek and Latin), Trope and Figure, Dictionary and Lexicon, Insanity and Frenzy) introduce a further complication.

What then shall be done? Is there no means whereby the drawbacks of the present system may be avoided? If the difficulties cannot be cancelled, can they not be reduced in magnitude? Perhaps it may be thought that the proper way would be to treat each word separately; and that would certainly be preferable to the ordinary method, by which synonyms are set down as absolutely convertible. But, surely, a better plan may be devised, and, perhaps, we may be helped towards it by the following considerations.

On examining a list of synonyms, we find four noteworthy points:—(1) Some synonyms derive their distinguishing meaning simply from the context,—from their logical relation in the sentence, from the word or words wherewith they are connected, from the place they occupy in the writer's thoughts or in the writer's argument. (2) Others are distinguished simply by this,—that the one is the more familiar, the other the more dignified, formal, or imposing term (rise, origin; begin, commence; yearly, annual; warlike, bellicose; flow, flux; death, demise; buy, purchase). (3) Difference in degree or vividness differentiates others; while (4) the large majority have nice and subtle demarcations.

In dealing with the first of these classes, there is little difficulty. Although in any special connexion there is only one word that is *the* word—although none else can suit so well; still, purely contextual synonyms are with very rare exceptions beyond the scope of the lexicographer; they ought simply to be excluded. In the case of dignity and formality, it will be sufficient that this discriminating mark be noted. When degree is the ruling feature, we may use the linear method of presentation, the arrangement following the order of intensity; and when two or more terms express the same degrees they would be united by the alternative conjunction "or". Thus, Unkind expresses a certain reprehensible quality in agents or in actions. The same quality, but in stronger degrees, is expressed by the words Harsh, Cruel, Barbarous, Brutal, Savage. After, therefore, defining Unkindness, it would be sufficient to say:—Stronger degrees of the same quality expressed by harsh, cruel, barbarous, brutal, savage. So, again, Unhappiness points to a certain measure of pain arising (as Butler would say) from a faculty's not having its object. Higher measures are implied in

Misery, Wretchedness. Difficulty has under it, arranged in an ascending series, Hard, Laborious, Arduous. Servitude has Slavery, Bondage.

These, clearly, can be manipulated with comparative ease. The difficulty rests chiefly with the others.

Now of these we may recognise two classes: (1) where the synonyms attach themselves to a simple idea or an undefinable situation; (2) where they are connected with a complex notion. But in either case the procedure is the same, only in the latter case it is somewhat longer. When we have a simple idea or undefinable situation to deal with, the method is, to set down the synonyms in a line, arranging them in groups, each group being marked off from the others by a semicolon; and then to append, in as few words as possible, the requisite explanation. It is the same method, with a slight addition, when we have to deal with a complex notion. The plan is, to break up the notion into its constituent elements, and under each to arrange the grouped synonyms in separate clusters, each group being preceded by its ruling idea (placed within brackets) and the note of explanation following. We shall make this plain by a few examples.

Let us begin with the undefinable word Hot. Its synonyms are—ardent, burning, glowing; fiery, scorching. By placing these under the term Hot, it is at once seen that they all agree in having this in common—"heat"; but by grouping them in the way that we have now done, and by using the distinctive punctuation, it is further evident that the first three form one group, and the other two a second. It only then remains to add a note expressive of the distinctions within the groups themselves. This could be done very shortly, and the whole would stand as follows:—Hot. Synonyms:—ardent, burning, glowing; fiery, scorching. *Note.*—Of these, the first three differ simply in degree [it would not be necessary to state which is the strongest, which the weakest, if it were once understood that in expressing degree we always arranged in an ascending order]; the two others denote (with difference in degree) the injurious or destructive energy of heat, the idea of fitfulness also being conveyed in the former.

As an example somewhat more difficult, we may take Give. This too is undefinable, and has for synonyms:—Grant, afford; impart, bestow, confer. The note here, after the linear punctuated presentation, would be:—The giving denoted by the first two terms is that in answer to a desire; the difference being that the desire in the first instance is outwardly expressed (as in a prayer, petition, or request), but not necessarily so in the second. The idea common to the second group is that of com-

municating; but, while "impart" does not go beyond this, the other two members add the idea of benefiting, with this difference that "bestowing" is done *graciously*, "conferring" *condescendingly*.

Argue, again, gives the synonyms—Debate, discuss; dispute, contend: whose note would run thus:—The idea common to the first two is that of sifting arguments, examination in detail being prominent in the latter. "Dispute" and "contend" are the different sides of the same process; one being to argue *against* a position (the side of the assailant), the other being to argue *in its favour* (the side of the defendant).

These, again, are the synonyms of Get, *viz.*, obtain, acquire; gain, win; earn; attain, procure: and this is how we should discriminate them:—Of these, "obtain," "acquire," "gain," "win" carry in them the idea of effort; but whether that effort be one's own or not is not brought forward in the first, while *personal* effort and time are connoted by the other three; the last (the second of which is the more vigorous term) having in addition the idea of competition. When reward or desert is the prominent conception, "earn" is the word employed. When we look mainly at the end to be reached, at the mark proposed beforehand as the goal, we use "attain"; and "procure" has reference to the use of means.

Probably few notes would extend to a greater length than that needed for the synonyms of Guess (conjecture, surmise; supposition, hypothesis, divination), which would be given as follows:—All these agree in this, that to a greater or a less extent they imply a leap in the dark. When we hazard a statement about something unknown without beforehand having reason to believe that we shall hit the mark, that is strictly speaking a "guess". When we *have* some reason (but a very slight one) to believe that what we are to say about the unknown is correct, then that is "conjecture"; and a strong conjecture, in things practical, is called a "surmise". When, again, we have considerable confidence in our statement about the unknown, when there is every likelihood of our being correct,—that is to frame a "supposition"; and a supposition philosophically considered—as employed in science—is called an "hypothesis". "Divination," again, is a combination of natural sagacity or shrewdness with hazard; claiming at the same time a certain prophetic or predictive power.

Once more, we may take Leaning, whose synonyms are—bent, inclination, bias; proneness, propensity; tendency, turn. The note runs:—Of these, "bent" and "inclination" are the most vivid terms, and both refer to the twist or leaning of the mind in a particular direction—to the fact of its deviating from

the normal line or standard; the first pointing to a permanent or lasting deviation, not necessarily so the second. "Bias" also implies deviation; but, while these have nothing reprehensible attaching to them, "bias" has: it is used when the departure from the straight is considered *irrational*. When this departure has a strictly *moral* character, we use the words "proneness" and "propensity". Both of these are now employed mostly in an unfavourable sense, and, of the two, "propensity" is the stronger, and expresses best the unreflecting nature of the censurable proclivity. "Tendency" and "turn," again, look mainly to *direction:* neither of them brings prominently forward the notion of departure from a given line (like "bent" and "inclination"), neither of them carries in it the idea of what is either irrational (like "bias") or wrong (like "proneness" and "propensity"); but, while the direction of the former may be owing either to nature or to habit, that of the latter is solely an affair of nature. "Turn" expresses an innocent preference for a thing as suitable to the taste, or as falling in with a natural capacity or appetite.

When now we proceed to the handling of complex notions, we have no need (as has just been said) to change the method; we have simply to expand it.

Let us operate on the word Cause. The two meaning-giving ideas contained in this word are *productive power* and *starting-point* or origin. Each of these has its group of synonyms. From the first we obtain,—producer, efficient; motive, reason, inducement. From the second,—source, origin. Before presenting these, it would be necessary to note that such *are* the two ideas (so far as synonyms are concerned), which could be done by means of brackets; and then the ordinary presentation would follow. Thus:—Cause. Synonyms:—(Productive power)—producer, efficient; motive, reason, inducement: (Starting-point)—origin, source. *Note.*—Of these, the first two are used of *physical* causes, and are simply correlative ways of viewing the same thing. The next three are *mental;* "motive" being the general name for whatever determines choice. When the motive allies itself with our inclinations and desires, it is "inducement;" when with our rational nature, it is "reason". Of the remaining two, "origin" is commencement simply: add to this the idea of continued existence and unfailing supply, and we have "source". "Source" is permanent, and perhaps remote, origin, to which we may recur at pleasure.

Our next example shall be Law. There are three ideas to be noted here:—*guidance* or *direction*, *authority*, and *obligation*. Synonyms:—(Guidance or direction)—precept, rule, regulation:

(Authority)—injunction, order, command; edict: (Obligation)—decree, statute. *Note.*—Of these, the first three differ simply in the degree of generality with which they express the guidance of law; the first being the most general, the last the most specific. "Injunction," "order," and "command" are law's authority in different degrees of strength. "Edict" has the notion of publicity or publication prominent. "Decree" and "statute" give prominence to the bindingness of law; but "statute" is lasting, while "decree" is for a temporary and special occasion.

From these examples it will be seen that discrimination of synonyms is a thing quite possible within the compass of a dictionary. We may not be able to be so exhaustive as we should wish, but it is always something when salient differences are exhibited; and it were even something though we went no further than placing synonyms in a list by themselves and arranging them in separate groups. The space at the lexicographer's disposal sets limits to the operation, but more space will be at his command when he ceases to define the undefinable, and when he omits the irrelevant etymons that at present occupy his attention.

Perhaps it may be asked, On what principles do we select the word under which a list of synonyms is to be placed? why, for example, arrange "harm, injury, damage," under Hurt, rather than otherwise? what is the special propriety in considering "aid, assist; succour, relieve" under Help? The answer is,—We examine the group and discover the notion that *all* the members have in common, and that determines the presiding term. Thus, we take the list—"Enquire, investigate, search; inspect, examine, scrutinise," and, on examining it, we find that, while the first three represent in different degrees the effort needed to discover something that awakens curiosity, and the second three refer to the minuteness and detail implied in the process, the third bringing forward the idea of sifting or critical inspection,—the one thing that they all share in is *seeking*, and so Seek is the proper word to stand as heading. Again, "abuse, humiliate; disgrace, dishonour; degrade; debase," fall naturally under Humble. "Comfort, enjoyment, joy; happiness, felicity; blessedness, bliss"—are all species of Pleasure; while Confinement gives "imprisonment, incarceration, immuring". The selection is by no means arbitrary, but is rationally determined: it is reached by an application of the logical process of elimination.

Meanings.

A word still remains to be said on the grouping of different senses. This follows the same principles as before; and, indeed,

synonymous grouping not unfrequently exhausts the subject, and dispenses with the need for any other. Where, however, need remains, the first thing to be done is to make a strict and thorough scrutiny of the lists, with a view to purging them of contextual and irrelevant meanings. No one that has not looked specially into the matter has any conception of the extraordinary number of dictionary meanings that are simply contextual and irrelevant and such, therefore, as ought to be entirely discarded. Thus, under Light (as opposed to Heavy) we find among other things—"easily suffered or performed," "easily digested," "not afflictive"—meanings all determinable by contextual circumstances: so too with "slight, not great," "under influence of intoxicating liquors". Life, again, (as manner of living), has reference to happiness or to misery, to virtue or to vice; but this is contextual and ought to be excluded: so, also, meanings like the following—"blood, the supposed vehicle of animation," "living form," &c. As an extreme instance we may take the preposition "To". This, properly, has but one meaning, *viz.*, "motion in the direction of"; and yet in one dictionary we find the meanings set down as five, in another as eleven, in Dr. Latham's *Johnson* as twenty-two (exclusive of Johnson's six adverbial meanings and his phrases), and in a fourth as twenty-three (with similar exclusions)!

Suppose then the preliminary purging finished, the next thing is to arrange in the most exact and least objectionable manner the meanings that remain. This will be an easy or a difficult task according as these meanings attach to a simple or a complex term, and according as they are numerous or few. Sometimes it will be in our power so to group them as to show the order of evolution (the logical, not necessarily the historical, order), to exhibit at each stage the connecting link between a signification and the one that follows. But this will be comparatively seldom. Meanings ramify and interlace in puzzling fashions, and, then, intervening significations have frequently grown obsolete, or perhaps they were never in use at all and the link necessary to complete the series exists only for the philologist. Where, however, it *is* possible to exhibit the order of development, it is well to take advantage of it; there is no other mode that so conduces to clearness. Thus, Eccentric gives us the evolving series—"not having the same centre as another (used of circles), out of the usual course (applied to conduct), odd"; a series in which the one meaning slides naturally and easily into the other. So, too, the proper order in arranging the meanings of General, after that word has been discriminated from abstract and universal, is—"not special, common, public, vague". Active, again, has "smart, nimble, busy". Sad has

"heavy, serious, casting down, cast-down or dejected". Damp (the verb) has "moisten, chill, discourage, depress, check": and so with others.

But meanings are not, as a rule, so easily classified as this; they group themselves round different, and sometimes opposite, ideas, and they are complicated by scientific and technical associations. Now where under the same word we have two or more sets of meanings, it is of great importance that these should be kept entirely separate, and it is of much importance also that technical and scientific uses (including the philosophical and the religious), in so far as they do not naturally arise out of the others, should be presented in separation. Total separation, too, should be made between meanings of the same word that are contradictory (such as we find in oblige, let, invaluable, priceless, obnoxious); while words themselves that have a similarity in form but are nevertheless distinct words (such as "cleave" *to cling to* and "cleave" *to divide*, "hind" *a peasant* and "hind" *the female of stag*, "light" *the opposite of darkness* and "light" *the opposite of heavy*, "host" as *hospes*, "host" as *hostis*, "host" as *hostia;* "mass" from *massa* and "mass" from *missa*, "race" from *radix*, "race" from *raiz*, and "race" from *raes)* should be treated as distinct. In the first case, each separate group should be ranged in a separate sentence, and the differences within the groups themselves should be marked by means of the comma, the semicolon, and the colon. In the second case, each word must be dealt with apart.

Of complex groupings, we may produce a few examples.

We take the noun Point. This, in its central conception, stands for "the sharp edge of anything". It contains, therefore, at least two ideas—*smallness* and *sharpness;* and each of these gives its group of senses, while a separate and almost incongruous signification is added by Geometry. From *smallness* (after the list has been duly purged) we get "mark or dot," with a special application in writing and another in music; "exact place"; "precise thing (to be aimed at or considered)"; in Geography, "a headland or promontory". *Sharpness* gives us "sting," as in an epigram. Now these (the governing ideas being bracketed as in synonyms) would be fitly presented thus:—Point. Meanings:—(Smallness)—mark or dot; in writing, used for dividing sentences and clauses; in music, placed at the right hand of a note to raise its value one-half: exact place: precise thing: in Geography, a promontory or headland. (Sharpness)—Sting of an epigram. In Geometry, position.

Stage, again, means platform for exhibition, and it is applied also to distance. The groupings should follow this twofold application.

Again, there are two series of meanings attaching to the word Hurt, according as the injury contemplated is physical or mental.

It is a bad arrangement when the secular and the religious bearings of Office are mixed up as follows:—settled duty or employment; business: act of good or ill: act of worship; formulary of devotion: peculiar use: a place for business: a benefice with no jurisdiction attached.

The meaning of "palm off" in Impose must be isolated from the other meanings, which all spring naturally from the (etymological) idea of "laying on".

Term has two groups according as the idea of *limit* does or does not predominate; and by itself would stand the algebraic signification—"a member of a compound quantity".

Once more, the various senses of Chance group themselves around the two conceptions *absence of known cause* and *absence of set purpose* or *intention*.

The presentation of Mind might be:—Mind. The antithesis of Matter and Space; the unextended as opposed to the extended. Divided into Feeling (including Sensation and Emotion), Intellect, and Will. Synonyms:—Soul, Spirit; of which the first is the immortal part of man, in opposition to Body, which is mortal, and the second is the highest principle of man's nature, whose exact antithesis is Flesh. Meanings:—(Intellect) —thoughts or sentiments, belief; remembrance. (Will)—choice, intention. In Scripture, sometimes taken for *disposition*.[1]

These, then, are the various points of interest in connexion with the dictionary-handling of terms. In order to give a full and satisfactory presentation of a word, three things have to be carefully attended to,—its Definition (or non-definition, as the case may be), its Synonyms, and its different Meanings. Each requires the utmost delicacy of treatment, and no pains should be spared to give to it the full precision and completeness that the case admits of. Our complaint against the dictionaries is that this has not been done. Too much has been attempted in some directions, too little in others. Grave remediable errors

[1] It may perhaps be thought that something might be made of the common division of meanings into Literal and Figurative. But, clearly, this division has many drawbacks. In the first place, a figure, strictly speaking, derives its force from the connexion in which it is employed; wrest it from this connexion, and its force is gone. An exception must be made in the case of figures of Contiguity (metonymy); but then the meanings here can be best arranged in the ways above suggested. Again, we cannot make a separation between the literal and the figurative in many cases where we adopt the evolving-presentation. Once more, such a separation is for the most part incompatible with synonym-discrimination.

and defects are still rampant, and a dictionary on strict logical principles is as much a desideratum now as ever.

WILLIAM L. DAVIDSON.

NOTE.—The above suggestions have been confined to *English* Lexicography; but it is evident that the principles advocated are applicable, *mutatis mutandis*, to other languages than English. They are applicable, for instance, to the ancient languages: and it is to be observed, to the shame of English lexicographers, that certain Classical dictionaries, though equally defective (and with much better excuse) in the matter of ultimate notions, are far ahead in the matters of synonymous discrimination and logical groupings. A case in point is the Latin dictionary of Lewis and Short. It is further to be observed that the same principles, with the necessary qualifications, might be profitably applied in the English "School-books"; most of which are in a pitiable state of confusion, as to the definition and explaining of terms.

W. L. D.

IV.—BUCKLE AND THE ECONOMICS OF KNOWLEDGE.

IT seems at first sight like a satire on the teaching of Henry Buckle that, nearly twenty years after his death, public interest should be more attracted by the pettiest details of his personal life than by the intellectual achievements but for which those details would never have been recorded, or, had they been recorded, would never have been studied. It might be urged that this was just the sort of gossip from which he desired to set history free, and to substitute for it an inquiry into the general laws by which men's actions in their totality are determined. Yet many of these details strikingly illustrate a peculiar and neglected aspect of his philosophy. For he held that moral and affectional motives are all-powerful with the individual, although exercising an inappreciable influence on masses of men acting together. Accordingly he considered that much which ought not to find a place in history might very properly be relegated to biography; regarding the latter, indeed, as not susceptible of scientific treatment. His life, then, if it does not verify his entire philosophy, at least does not contradict it. It may also be taken as confirming and deepening the personal impression made long ago on his more sympathetic readers. There are passages in the *History of Civilisation* which show plainly enough that Buckle was full of deep tenderness and ardent enthusiasm. But without Mr. Huth's biography we should not have known how thoroughly good a man he was. Every page exhibits him to us as a genial companion, a judicious

adviser, a devoted friend. But we learn little more about his peculiar cast of intellect than that he had a memory even greater, if possible, than Macaulay's. For the rest, nothing that Mr. Huth has published tends to elucidate the causes, whether general or special, which made his philosophy what it was. Fortunately, however, the information required for that purpose is easily accessible. Next after his country, parentage and early associations, Buckle's true antecedents and environment are to be found in the school of thought to which for the most part he belonged. The object of this article is to show what tendencies he represented, and in what particular directions he attempted to work them out.

The English thought of the last half century, so far as it is really English and not a revival of old dogmas or an importation from the Continent, has been, under its most general aspect, a philosophy of freedom, individuality, spontaneity, experimentalism. Foreign observers often take it, superficially enough, for mere empiricism, the fit expression of a national character which they persist in regarding as narrow, selfish, and materialistic, incapable of wide ideas or of lofty aspirations. That such a people should also have created the richest poetic literature of modern times is an anomaly which they do not feel called upon to explain. Perhaps a little reflection would show them that our art and our philosophy, so far from being opposed, are products of the same imaginative genius working in different directions. It would then be understood that if we appeal to experience, the enlargement and not the limitation of knowledge is what we have most at heart; and that our utilitarianism is not the substitution of a low for a high standard, but of a progressive for a stationary, a social for a personal morality. Moreover, the English habit of individual liberty combines with the restless English imagination in leading our foremost minds to adopt whatever abstract theories offer the widest scope to spontaneity, to freedom of enterprise, to variety of choice. It was his thorough comprehension of this tendency and the consistent manner in which he brought it to bear on speculation that qualified John Stuart Mill to be for so many years the leader of English thought. His *Essay on Liberty* only expresses more briefly and clearly the fundamental aim of his larger works, which was to show that existing beliefs and customs, resting as they did on experience, might be superseded by a wider experience. He has told us himself that this was the aim of his *Logic*; and the drift of his *Political Economy* is evidently to exalt as much as possible the part played by free and conscious human agency in the distribution of wealth. That the system of Mr. Herbert Spencer is from beginning to end a philosophy of liberty and individualism need only be stated to

be perceived. We know from his own declaration that the whole series of works composing it were undertaken with a view to its ethical conclusion, and we know also that his ethical ideal is a society where the component parts interfere to the least possible extent with one another. Thinkers of a more limited scope are dominated by a similar tendency. Mr. Darwin has, so to speak, projected the experimental method into nature, and shown that it is the condition not only of scientific progress, but of all vital progress whatever. Spontaneous variation and natural selection correspond exactly to repeated trial and failure followed by eventual success; and among animals also those families prosper most where there is most diversity developed, in other words, where originality is least trammeled. The same idea is present in Professor Bain's theory of voluntary action, which offers a parallel to Mr. Darwin's theory of organic evolution the more remarkable from its having been worked out before the latter was published. According to it, all sorts of movements are spontaneously set up by young creatures, and only those muscular combinations survive in memory that experience proves to be associated with pleasurable feeling, or with relief from painful feeling. Another instance of the prominence given to experimental freedom by English thought is the place which Professor Jevons assigns to hypothesis in his *Principles of Science*, particularly in the chapter on "The Character of the Experimentalist," where it is very clearly explained that scientific discoveries are not made by divination but by repeated guesses, most of which are utterly wrong. The two greatest works of modern English historical literature, Grote's *Greece* and Macaulay's *England* are both, but the former more especially, pleadings in favour of political liberty. Even those writers who, like Carlyle and Mr. Ruskin, on the whole approve of despotism rather than of democracy, cannot avoid doing homage to the English spirit. For the attraction of arbitrary power to Carlyle was that it enabled exceptionally gifted individuals to carry out their designs without let or hindrance; and Mr. Ruskin protests against machinery because it destroys the personality of the workman, his free initiative and spontaneous energy. Even the breezy criticism of Mr. Matthew Arnold may be mentioned in this connexion as a help to the emancipation of thought from routine methods and from party ties. Finally, the English Positivists, while accepting a continental philosophy, distinguished for its animosity to many forms of liberty, are so far faithful to the traditions of their own country as to lay special emphasis on that part of Comte's doctrine which demands the liberation of the spiritual from the temporal power.

This general tendency of English thought was most fully

accepted by Buckle. As a writer, love of liberty was his ruling passion; as a philosopher, the idea of liberty was the centre of his system. Although a devoted student he preferred it even to knowledge.

"Liberty," he exclaims, "is the one thing most essential to the right development of mind and to the real grandeur of nations. It is a product of knowledge where knowledge advances in a healthy and regular manner; but if under certain unhappy circumstances it is opposed by what seems to be knowledge, in God's name let knowledge perish and liberty be preserved. Liberty is not a means to an end, it is an end itself. To secure it, to enlarge it and to diffuse it should be the main object of all social arrangements and of all political contrivances." [1]

But the necessity for choosing between knowledge and liberty was not likely to present itself to him in a practical form. Each was conducive to the other; each in its way was a realisation of mind, an expression of inward spontaneous energy. He conceived that the love of knowledge was, equally with the love of wealth, inherent in man, and was enough to account for all progress when allowed free play by the presence of favourable material conditions and the absence of artificial restraints. This notion was, in truth, a generalisation from his own peculiar circumstances. The elder Buckle had been engaged in business, and had bequeathed a competence to his son which enabled the latter to devote his whole time to intellectual pursuits. Although averse from office-work he kept up the traditions of business and carried them into philosophy. Political Economy supplied a natural connexion between the basis and the superstructure of his existence. From that science as from a centre all his other studies branched out, and from it he borrowed the method by which they were arranged. It was, then, quite natural that he should look on Adam Smith as the greatest man that Scotland had ever produced, and on the *Wealth of Nations* as the most important book ever published. He himself aspired to be the Adam Smith of a still more comprehensive science, and to found the Economics of Knowledge.

Buckle's opinions were formed at a time when *laissez-faire* was the undisputed law of political economy, and his early manhood coincided with the stirring period of agitation for free-trade, an agitation in which we are told that the young student was intensely interested. Thus at a very early period his speculations were biassed by a strong prejudice against governmental interference; and his plan for extending the laws of wealth to knowledge required that something analogous to the protective system should be discovered in the intellectual sphere. This is why Buckle tries to bring bad government of every kind under

[1] *Miscellaneous Writings*, I., 44-45.

the heading of protectionism, and why he looks on churches in particular as associations invested with a kind of speculative monopoly, to the great detriment of scientific industry. Anti-clerical rather than anti-theological, his attitude is, in this repect, exactly the reverse of that taken up by Auguste Comte, who highly approved of ecclesiastical organisation, but wished to utilise it for a new sort of teaching.

But, over a large part of the globe, human intelligence had to contend with an even more formidable enemy than the protective spirit, an enemy, indeed, to whom the unconquerable pertinacity of that spirit was, in most instances, due. Such was the point of view from which Buckle regarded Nature. He speaks of her as carrying on a perpetual warfare with man, sometimes victorious, sometimes vanquished, but always tending to thwart and drag him back to her own level. It is astonishing that one who formulated this fundamental antithesis so sharply, and who in other respects has so frequently expressed his adhesion to the popular metaphysics of twenty-five years ago, should ever have been charged with materialism. A notion has somehow gained currency that Buckle proposed to deduce the history of every country from its physical geography. Nothing could well be more unlike the truth. He distinctly marks off the regions where, in his phraseology, nature was subordinated to man from those where man was subordinated to nature; and it was with the former that, as a historian of civilisation, he was almost exclusively concerned. The idea that human beings and human societies are themselves natural products had apparently never occurred to him. This, however, was not for want of acquaintance with the theory of evolution, the basis of which he had fully accepted. Writing some years before the appearance of Mr. Darwin's *Origin of Species*, he alludes to fixity of species as an "old dogma" on which successful attacks had already been made[1]; and in the same passage he assumes that phenomena of every order have always been determined by their own laws without any interference from without. But he was averse from accepting the absolute dependence of mind on brain, nor could he well have done so consistently with his passionate faith in its immortality. Hence his scornful doubt that the human mind could be handed down like an heirloom[2]; his opinion that the intellectual and moral faculties do not improve; and his deliberate omission of race from the physical conditions which a historian has to consider. Even where he does admit physical influ-

[1] *History of Civilisation in England*, Vol. I., p. 806, note. The references throughout this Article are to the original edition in two volumes.

[2] *Miscellaneous Writings*, I., 17.

ences they are of a very indirect character, and they are just those which would be picked out by the economist and the literary student rather than by the physiologist. Nature wars against political liberty by producing over-population, and so enabling landlords and capitalists to concentrate all power in their own hands. She wars against intellectual liberty by the multiplication of extraordinary and terrifying phenomena which stimulate the imagination at the expense of the understanding. Buckle seems to have confounded an originally rapid rate of increase in population with its final increase up to or beyond the limit of subsistence. The latter is theoretically possible under any conditions of climate, food and soil; and it is not necessarily involved in the former. The existence of vast plains isolated from the rest of the world, whether fertile or barren, seems a likelier cause of despotism than any other that can be named; while, conversely, whatever geographical circumstances are favourable to the development of several independent national centres, near enough for active intercourse with each other, but protected by natural frontiers against mutual aggression, and similarly situated with regard to the world at large—such regions, in short, as Greece, the basin of the Mediterranean, and Western Europe generally—are also favourable to liberty. It would seem also that the aspects of nature have much less to do with superstitious beliefs than Buckle supposed. For such beliefs were originally diffused over the whole earth under very similar forms; they have not remained constantly associated with awe-inspiring scenery; and where such an association does exist, as for instance in South America or the East Indies, it can be better explained by difficulty of communication with the centres of enlightenment than by any direct influence exercised on the imagination.

My object, however, is not so much to criticise Buckle's views, as to show in what modes of thought they originated. And here we have a remarkable verification of the guiding principle laid down at starting. Following the true English method, our philosopher construes universal history not as an organically connected whole, but as a great collection of spontaneous experiments on the possibility of human progress. Mind is scattered broadcast over the whole earth, but in only a few instances does it meet with conditions favourable to its development. Everywhere outside Europe civilisation was arrested, either because wealth could not be accumulated at all, or because it could not be diffused so widely among the masses as to enable them to understand and act on the ideas put forward by men of genius. In Europe a new set of forces, historical instead of geographical, come into play, and a series of

eliminations bring us at last to England as the only country where mind has been able to manifest its inherent powers of expansion on a scale wide enough to furnish materials for determining the natural law of all progress. By an equally ingenious train of reasoning Guizot proves that civilisation can best be studied in France; a country which Auguste Comte, on quite different grounds, also erects into the normal type of intellectual evolution. No doubt the patriotic bias spoken of by Mr. Herbert Spencer has something to do with these preferences; but a deeper reason will be found in the character impressed on every philosophy by the social conditions under which it is framed. A thinker who translates the ideas of his own nation into abstract formulæ will naturally find that this same nation best satisfies the requirements of his particular system. He may even extend the method to particular periods, and imagine that the world was never so enlightened as when his theory of what it ought to be first became fixed.

Besides his patriotic feelings, there was probably another strong motive which induced Buckle to select a single country for the application of his new method. This was the desire to simplify the hypothetical science of history, which, but for some such artifice, threatened to become unmanageably complex and difficult. The same consideration throws some light on his celebrated rejection of morality as a factor in the progress of civilisation. None of the author's theories provoked so much hostile criticism at the time of their first publication, nor were any of them supported by such weak and inconsistent arguments. It will perhaps be worth while to glance at the principal assumptions which those arguments involve. They are as follows: (1) The innate moral dispositions do not change. (2) Moral truth is not progressive. (3) Innate disposition and knowledge between them account for the whole of moral conduct. (4) Moral forces exercise no great or lasting effect on human affairs. Of these four propositions three are refuted by the history of slavery alone. It was not always known that slavery is wrong, nor, in fact, was it always wrong; the perception of its iniquity was made more active by religious feeling; and its abolition was in great part due to the excitement thus produced. With regard to the alleged stationariness of the innate moral dispositions—by which term of course nothing more than sympathy need be implied—everything goes to prove that on the average civilised children are born with a better nature than savage children, or than their own remote ancestors. It is, however, conceivable that, conceding the existence of moral progress, more may have been done for human happiness by purely intellectual progress. One great example of a benefit

due entirely to the latter is, according to Buckle, the comparative infrequency of war in modern times. His argument is a perfect nest of fallacies. The stimulus given to war by intellectual causes such as individual genius and the adoption of new beliefs by whole nations or sections of nations, is entirely ignored. It is taken for granted that the invention of gunpowder localised the military spirit in a separate class and thereby weakened it, whereas the localisation seems to have been greater before gunpowder came into general use[1]; nor was it likely that war should become less popular when its risks were confined to a particular class than when they were shared by the whole community. That national quarrels are discouraged by the diffusion of sound economical doctrine is doubtless true; but the false doctrines from which those quarrels formerly sprang were equally intellectual forces. Buckle gives as a reason for neglecting the influence of legislation on progress, that the best laws are those which have been passed for the repeal of bad ones; he does not consider how easily the same argument might be turned against his own favourite theory of social dynamics, a remark which applies equally to that other great intellectual triumph, the decline of religious persecution. For, so far, it is the most intellectual religions that have been the most intolerant; and modern thought in winning liberty has only won back what ancient thought enjoyed everywhere except in Athens. Nor is this all. Another influence adverse to war is, we are told, the great increase of travelling due to the extension of locomotion by steam. Different nations are brought into closer contact with one another, their mutual esteem is thereby increased, and their hostile feelings are proportionately diminished. Now, what is this mutual esteem if not a moral motive, brought into play, indeed, by intellect, but itself the determining antecedent? And, to make the self-contradiction worse, we learn that the reason why men's respect for each other grows with their mutual intimacy, is that the good in human nature considerably outweighs the bad. If so, what becomes of the position that virtue and vice exactly balance and neutralise each other's effects?

Apart, however, from these obvious objections, there is a deeper objection to the theory, which, so far as I know, has never yet been pointed out; namely, the indistinctness of the whole antithesis between moral and intellectual laws. Buckle saw clearly enough that duty is partly a matter of knowledge, without seeing that all knowledge must, as such, be intellectual;

[1] See Macaulay's Essay on Macchiavelli.

and he altogether failed to observe that the pursuit of science must equally, as a mode of action, come under moral laws. A life's devotion to the pursuit of truth demands no inconsiderable amount of temperance and courage; while candour in dealing with the opinions of others, and readiness to test one's own opinions thoroughly, imply a degree of fairness and disinterestedness not inferior to that which may be displayed in the performance of any other duty.

In estimating the influence of religion, literature and government on civilisation, Buckle finds his task greatly simplified by the previous elimination of morality; the immediate effects of these three agents (to which art should have been added as a fourth) being exercised on action rather than on knowledge; while again the consciousness that morality depends upon such complex conditions was a further motive for leaving it out of account altogether. Yet even so the questions raised in this connexion are most inadequately treated in the chapter specially devoted to them. So far as literature is concerned, Buckle himself subsequently took up a totally different position, expatiating eloquently on the stimulus which poetry gives to scientific discovery, and on the importance of keeping the intellect in perpetual contact with the emotions (II. 502); for which purpose, as need hardly be observed, literature is our most valuable auxiliary. His remarks on this head remind us of what Professor Tyndall has since said, and a little farther reflection might have led him to anticipate what the same authority has stated with respect to the moral basis of intellectual work.

Such considerations would, however, have been inconsistent with that thorough-going parallel between knowledge and wealth, between logic and political economy, which our author was bent on establishing; for the laws of material industry, as he had learnt them, were completely dissociated from morality and from disinterested emotion. It is not a little curious that two other English thinkers, Mr. Darwin and Mr. Herbert Spencer, should almost simultaneously have been carrying economic principles, the one into zoology, and the other into all philosophy. For the "struggle for existence is avowedly based on the Malthusian law of population; and the formula of evolution grew out of an attempt to place the doctrine of *laissez-faire* on a truly scientific foundation. Buckle uses both principles, although on a much more limited scale; he explains the tropical civilisations, as we have already seen, by the advantage which an unrestricted multiplication of human beings gave to land and capital over labour; he explains the European civilisations as a constant struggle between governmental interference and the natural development of intellect; and we shall presently

see that he forces deduction and induction into an analogy with the production and distribution of wealth.

It sometimes happens that a philosopher errs not by following his own ideas too far, but by not following them far enough; and I cannot help thinking that Buckle would have been better inspired had he pushed his parallel one step further, and introduced the theory of exchange into his intellectual economics. He would then have seen that the importation of knowledge from one country into another is the very condition of its progress; that for the community as well as for the individual isolation means death; that no nation however gifted can subsist on its own mental stores; and that truth acquires an altogether new power when transferred to a fresh soil. He would not then have held that the laws of intellectual or any other progress are best ascertained by studying their action in a country secluded, so far as possible, from external interference. And he would also perhaps have perceived that the decay of the great tropical civilisations arose partly from this very seclusion, partly from the reaction of the barbarism by which they were surrounded on every side, entailing as it did an ever increasing preponderance of the military spirit together with a crushing burden of taxation within. As it is, he unconsciously bears witness to the truth which he failed to recognise in its full force. England, which he declares to be the one country least affected by foreign influences, does in reality owe much of her intellectual greatness to those very influences. The circumstance that we did not formerly travel much abroad for pleasure, or receive many visitors from the European continent, is comparatively insignificant. We traded round the world; we received books, inventions, discoveries, and ideas from all quarters. One is almost ashamed to mention the Renaissance, so much has been written and talked about it of late years, and so fatally associated is it with the jargon of a frivolous dilettantism; but I cannot help noticing what a void is produced by its total absence from the pages of this historian. He seems to think that, towards the close of the sixteenth century, men suddenly, and for no particular reason except the negative one of ecclesiastical decay, began doubting what they had hitherto believed, and that modern enlightenment sprang as spontaneously from their doubts. The truth is, that they questioned one set of beliefs because they had become familiarised with another and contradictory set, embodied in the classic literature of Greece and Rome. Nor was the intellectual life of England dependent only for its first awakening on an external stimulus, it was sustained through the whole seventeenth century by continual contact with the minds of other nations; while no sooner was

their influence partially withdrawn, as happened in the eighteenth century, than it fell into a speedy decline. Buckle has noticed the dearth of speculative genius which followed the deaths of Locke and Newton, but he has failed adequately to explain it. Curiously enough too, the explanation which he does offer is inconsistent with his own principles. According to him it arose from the diversion of the national genius partly into practical pursuits, partly into political contests (I. 808). Here then are two most serious disturbances, totally unconnected with the protective spirit, not allowed for in his general philosophy of history, and all the more dangerous that they are likely to gain instead of losing strength with advancing civilisation. That, however, he exaggerates their effect during the period referred to, will become evident when we consider how much greater their activity has since become without proving incompatible with a brilliant revival of science and philosophy. If we ask what was the cause of that revival, Buckle will himself supply us with the answer. He attributes it first to the influence of the Scotch school, and then to the "sudden admiration for German literature of which Coleridge was the principal exponent" (I. 809). Only prejudice could have prevented him from acknowledging our obligations to France as well. Turning now to other countries, Buckle continues to furnish fresh evidence of the same truth—the intellectual interdependence of nations. He tells us that France, enervated by the despotism of Louis XIV., was only saved by a wholesale importation of English ideas; and that the German intellect was raised to an even abnormal activity by contact with those eminent Frenchmen who flocked to the court of Frederic the Great (I. 217). English and Greek literature had, by the way, much more to do with that extraordinary fermentation than Maupertuis and his colleagues; but as Buckle unhappily did not live to sketch the history of German thought, I need not press the point. Another striking illustration is offered by the history of Spain. Nothing in his whole work is more interesting than those condensed and vivid pages in which Buckle shows how, after having been brought to the lowest ebb of misery by her priesthood and her government, that unhappy country was restored to something of her former prosperity by the efforts of a foreign dynasty. Yet, strange to say, he seizes on this opportunity to push home the lesson that "no progress is real unless it is spontaneous" (II. 99). That Spain temporarily fell back from the position won for her by Charles III. may be true enough. But did she become again what she had been a century before? And has she made no progress since then? The revolution of 1868 was, comparatively speaking, a failure, as indeed the revolutions of

England and France at first seemed to be also, but at any rate it revealed the existence of a sceptical feeling diffused through the entire Spanish nation, and an utter decay of the old loyalty, which according to our philosopher are the most essential requisites of progress; and this scepticism, whatever may be its value, is altogether an importation from France and Germany, and, we may suppose, was first set on foot by the reforming zeal of the Bourbons. The derivation of Scotch philosophy from England and France is not noticed, although the influence of the latter at least had already been pointed out by Carlyle in his essay on Burns.[1]

The preference shown by Buckle for home-grown over imported knowledge may have been suggested by Adam Smith's analogous preference of agriculture to manufactures, and of native industry to foreign trade. But when he declares the protective spirit in church and state to be the great enemy of intellectual progress, and therefore of all civilisation, the very form of the expression places its economical derivation beyond a doubt. Here he is quite at home, and his whole soul is thrown into the work. The polemic against protection occupies the larger portion of his history, and it was this that won for it such a resonant and far-reaching success. From a literary point of view the success was well deserved. I, at least, know of nothing in any work of the kind marked by such intense, sustained, victorious passion, the passion without which, as Hegel says, nothing great can be achieved, and which, in this instance, is rendered more formidable by the imposing array of facts brought up to support it at every step. To us of the present generation Buckle's words have a more individual distinctness and a more immediate interest than to his own contemporaries. For, since they were written, there has been a revival of the protective spirit under a new form, and in many quarters it is proposed that the old authoritative methods should be used to consolidate and extend reforms initiated by very different means. Endowment of research, endowment of Catholic professorships, compulsory education, compulsory temperance, compulsory thrift, interference with freedom of contract, and Socialistic velleities of every kind—these are but the various parts of a system against which Buckle, had he lived, would have protested not less energetically than Mr. Herbert Spencer, now the sole surviving theorist of English liberty.[2] It behoves

[1] In one passage Buckle speaks of "that interchange of ideas which is likely to become the most important regulator of European affairs" (I. 223). But he omits to notice that it has always been their most important regulator.

[2] Seconded, I must add, on particular points, by Mr. Grant Allen and Mr. Auberon Herbert.

us then to examine with especial care the arguments by which his thesis is supported, and the historical examples by which he has endeavoured to verify them.

The protective spirit, as has been already observed, is twofold. It may either interfere with men's actions, or with their beliefs, or with both. In France it chiefly took the direction of political tutelage, in Scotland of ecclesiastical intolerance, in Spain of both combined; the consequence being that in the last named country progress was completely arrested, while in the other two it has been irregular and unhealthy. The French Revolution was a reaction against the protective spirit, and its destructive violence was due to the rigour of the repression which provoked it. Few liberal thinkers will deny that Buckle's criticisms on the past and present condition of the countries just enumerated contain a large amount of truth. It is quite another question whether the wide generalisations founded on his historical survey are equally to be trusted. To begin with, it seems to me that the assumption of a fixed antithesis between the people and their rulers is eminently misleading. Economical writers are perfectly justified in treating it as a constant factor in their science, for interferences with industry on a large scale can only be carried on through the agency of legislation, and they frequently arise from a real opposition of interests between the community at large and a small minority of capitalists or landlords who have got possession of the central authority. A country may also be governed by a foreign race, possibly for its own good, but at any rate without its own consent or co-operation, like India at the present moment; or again it may be dominated by a priesthood sprung from its own ranks and speaking its own language, but to all intents and purposes the soldiers of an alien power, and quite out of sympathy with its real opinions; but apart from these exceptions every government is really representative, even when it is not created by the popular vote, and merely gives a sharper expression to the collective will or to the prevalent beliefs of the people. Sometimes the rulers will be a little in advance of their subjects, and sometimes a little behind them; but, to use a favourite formula of our author's, deviations in one direction will be compensated by deviations in another. Here the government will be too interfering, and there too remiss; but in either case the error will be attended by counterbalancing advantages; and probably each nation will have something to learn from the other. Everywhere there will be obstacles to progress; but they will arise far more from the natural inertia of the human mind, varying with race and geographical position, than from the distribution and application of political power; and they will equally affect all classes of society.

Again, Buckle seems to confound under the common name of political protection five distinct ideas: (1) Despotism of any kind; (2) the concentration of power in a few hands; (3) the favouring of one class at the expense of others; (4) interference with individuals for their own good; and (5) the feeling of personal loyalty towards a hereditary chief. He even goes so far as to identify what is called a paternal government with a "government in which supreme power is vested in the sovereign or in a few privileged classes" (I. 557). Yet surely the government of Turkey is not paternal; nor is the development of democracy unfavourable to benevolent interference with private interests, as the present tendency of legislation in England proves. Buckle also associates economic protection with political absolutism and centralisation, although in the United States it flourishes under conditions the very reverse of these; while only a few years after the publication of his first volume, free-trade was imposed on France by a despotic ruler.

Undoubtedly there are countries where the principle of authority is highly developed, and others where it is restricted within very narrow limits; but to say that the former are necessarily animated by a spirit unfavourable to scientific progress is probably more than Buckle would have ventured to assert in so many words; although on putting his various expressions together this is the only interpretation that they will stand. Yet it is notorious that science has received great encouragement from many absolute rulers both in ancient and modern times. In France it made great progress under the old *régime*. In Germany it has co-existed with a complete absence of political freedom. Perhaps he would have held that mere knowledge was an insufficient return for the sacrifice of individualism and spontaneity; but we have only to deal with his clear and categorical assertions—(1) "that the progress of mankind depends on the success with which the laws of phenomena are investigated, and on the extent to which a knowledge of those laws is diffused"; and (2) "that the great enemy of this movement is the protective spirit" (II. 1). Now I maintain that whatever else the history of France proves, it does not prove the second of these propositions. Let us consider what arguments it suggests to Buckle. He does not, indeed, discuss the endowment of research put in practice on a large scale by Louis XIV., but he censures the encouragement given to literature by that monarch on grounds which, if they are worth anything, must equally apply to science. As usual the principles invoked are purely economic. We are told that—

"Every nation which is allowed to pursue its course uncontrolled, will easily satisfy the wants of its own intellect, and will produce such a litera-

ture as is best suited to its actual condition. And it is evidently for the interest of all classes that the production shall not be greater than the want; that the supply shall not exceed the demand. It is, moreover, necessary to the wellbeing of society that a healthy proportion should be kept up between the intellectual classes and the practical classes. It is necessary that there should be a certain ratio between those who are most inclined to think, and those who are most inclined to act. If we were all authors, our material interests would suffer; if we were all men of business, our mental pleasures would be abridged. In the first case, we should be famished philosophers; in the other case we should be wealthy fools. Now, it is obvious that, according to the commonest principles of human action, the relative numbers of these two classes will be adjusted, without effort, by the natural, or, as we call it, the spontaneous movement of Society."

The obvious fallacy lies in supposing that literature is useless when those who are engaged in its production cannot live on the sale of their works. The idea of doing anything for posterity is quite ignored. And we are vainly left to imagine how the book-market is to provide needy philosophers not only with the necessaries of life, but also with the instruments of research, such as libraries, observatories, laboratories, and collections of natural objects, in the absence of state-aid, and even of private munificence, for that too must be excluded if we are to apply the law of supply and demand with complete consistency. To suppose that such aid, even when granted on a liberal scale, would impoverish the rest of the community is absurd, especially when we consider how largely scientific discoveries contribute to the national wealth. Nor can it be contended that the energies of scientific men are weakened by the receipt of public assistance (as those of other producers might be), so long as it does not exceed their real wants. Had our author lived to write his promised sketch of American civilisation, he would perhaps have found that the want of accumulated knowledge—which, according to him, is a serious obstacle to the progress of the United States (I. 220)—may be traced to a want of endowments for the support of learning in that country.

Buckle, however, in the chapter to which I have been referring, evades the real issue by speaking at one time as if the interests of science or philosophy were identical with those of literature, and at another time as if the two were opposed. The former view is expressed in the passage just quoted, the latter in his subsequent arguments. We are told that Louis XIV., by encouraging art and poetry, arrested the great intellectual movement which had been in progress before his accession to power. It may be doubted whether any courtier ever attributed such omnipotence to a monarch as this republican historian. Here, again, an economical analogy is falsely applied. Because capital can be readily transferred from one employment to another, it does

not follow that the same is true of brains. It is, indeed, evident from the facts furnished by Buckle himself that, before Louis XIV. assumed the direction of affairs, the French intellect was already executing the evolution ascribed to his mischievous interference with the natural course of thought. For "the poets, dramatists, painters, musicians, sculptors, architects, were, with hardly an exception, not only born, but educated under that freer policy, which existed before his time" (I. 648). *A fortiori* their career must have been already decided before his majority. That epochs of scientific and of artistic excellence should alternate with one another is, in truth, a regular law of history, and the same phenomenon has repeated itself at other periods when the cause, whatever it may be, evidently lay deeper than the vicissitudes of court favour. It is another question whether the intellectual sterility which marked the latter half of Louis's reign is to be attributed to the protective system. Looking at our own Victorian age as it now is, compared with what it was twenty years ago, and at the present wretched state of French literature as compared with the generation of 1830, I am inclined to think that here also we are in presence of some mysterious rhythm according to which many more great writers are born at one time than at another.

Passing from the protective spirit in politics to the protective spirit in theology, I must again call attention to the confusion of ideas lurking under a style of exemplary clearness. The somewhat heterogeneous forces represented by clericalism, asceticism, intolerance, and superstition are lumped together under a single heading; while the last of these terms is sometimes used to denote supernatural beliefs lying outside theology, and sometimes any amount of supernaturalism going beyond Buckle's own theistic creed. Sometimes the clergy are dangerous because they teach certain doctrines; at other times the doctrines are only dangerous because of the authority which they give to an organised class whose interests are opposed to progress. Sometimes the study of theology is attacked as a waste of power, because it deals with subjects not admitting of any certain information; at other times because it propounds theories inconsistent with experience. Under cover of such ambiguities, the Scotch and the Germans are equally spoken of as being more superstitious than the English; although most of the faults with which Scotland is reproached are present in England to a considerable extent, and not present at all in Germany. Moreover, the evils indiscriminately associated with the protective spirit in theology, so far from being always combined, are often found to be inconsistent with one another. Asceticism is not the rule of established

churches, but of those religious teachers who are thrown, for their support, on the voluntary contributions of the people. It is also notorious that the latter class, precisely because they are not protected, that is to say, not educated at the public expense nor admitted to the society of the higher orders, are generally distinguished by the greater illiberality of their sentiments. Again, a real theology, however largely intermixed with error it may be, is widely removed from the mere popular and spontaneous superstitions with which Buckle habitually confounds it, by the systematic cohesion of its dogmas, and by the severe intellectual effort implied on the part of those whose duty it is to assimilate and to defend them. It is no accident that so many *savants* should be the children of Protestant clergymen, and that so many philosophers should have been theological students in their youth. Even as a formidable enemy, Catholicism may have rendered valuable services to free thought, by nerving its advocates to the most strenuous efforts and obliging them to find counter-solutions for the great problems to which the church had already provided an answer. Buckle knew well that industry does not attain its highest development in regions where the wants of life are most easily supplied. He might have inferred from that significant circumstance that the intellectual energies gain fresh strength from the obstacles against which they contend. It would have been worthy of an English philosopher to point out that, in the intellectual sphere also, competition is needed to secure efficiency; that great thought has always been aggressive and defiant; and that the weakening of its antagonist may dangerously react upon itself.

After considering the causes by which knowledge is impeded, we pass to its own laws, to the conditions under which it is extended. Here the analogy between intellectual and industrial economics, which throughout has been our guide, is completed. We are taught to consider knowledge, like wealth, under the two heads of accumulation and diffusion. By the former, progress is made posssible; by the latter, it is actually effected. Had Buckle been really, what so many writers fancy he was, a disciple of Auguste Comte, he would here have availed himself of the results already reached in the Positive Philosophy. The law of the three stages was ready to hand, together with the classification of the sciences according to their logical and historical order of evolution. His true master, however, among contemporary thinkers is not Comte but Mill; he combines the *System of Logic* with the *Principles of Political Economy*; he looks on deduction as the great instrument by which knowledge is accumulated, and on induction as the great instrument of its

diffusion.[1] We have to lament that his whole case is not before us, for it was in the unwritten chapters on Germany and America that these two processes were to have been more particularly studied. I believe, however, that the method chosen was a mistaken one, and that its inadequacy may be demonstrated from the portions which he lived to complete.

It would appear, to begin with, that Buckle had either no clear idea of what is meant by induction and deduction, or ideas which were the reverse of true. And here let us pause to observe that Buckle, while professing to discard the methods employed by metaphysicians for investigating the laws of mind, and setting very little value on the positive results which they have attained,[2] has in fact borrowed the whole framework of his system from these very metaphysicians, without acknowledgment and without criticism. He justly censures Reid for multiplying unproved assumptions. Yet he had a common-sense system of his own; only he never got so far as Reid; he never consciously formulated it to himself. Preoccupied with the idea of general laws as the one great object of knowledge, he forgot that, before laws can be even looked for, a preliminary mental analysis is needed, sometimes of infinitely greater difficulty and importance than any subsequent part of the inquiry. But, as nobody can move an inch without such an analysis, he takes for granted the distinctions of common language and common thought, without perceiving their purely relative and provisional value. It is only by studying the history of these distinctions that we can free ourselves from their tyranny. Buckle, apparently, had never done so, and, not having mastered them, they have mastered him. They are perpetually misleading, or tripping him up, or gathering in a hopeless tangle about his steps. So it is with the antithesis between nature and man derived from the Greek Sophists; the antithesis between the intellectual and the moral derived from Aristotle; the Socratic confusion of dutifulness with knowledge; and the assumption of an immemorial unchanging moral code, smacking strongly of intuitionism. Then, again, we have the scholastic separation of the imagination from the understanding; and on it is superimposed a theory that art is due to the one and science to the other. This supplies him

[1] This is nowhere stated in so many words, but I think as much may be gathered from the contrast drawn between Germany and America, I. 224, and the retrospect in II. 579 ff.

[2] He mentions as the sum total "a very few of the laws of association" (one would like to know how many there are altogether), "and perhaps I may add the modern theories of vision and of touch" (I. 151). Yet out of these materials nearly the whole of a new psychology has been constructed.

with a ready explanation of the disproportionate development of art in Italy and Spain; the imagination being stimulated to excess in those countries by the more imposing aspect of nature as compared with Northern Europe. It seems to have escaped his notice that in art the Belgians far surpass the Swiss, while in science the relation is reversed. Elsewhere, as I have already observed, he does justice to the scientific uses of the imagination, but straightway proceeds to confound it either with a knowledge of the emotions or with the emotions themselves. These, he incidentally declares, "are as much a part of us as the understanding"—which has never been denied—and adds that "they are as truthful" and "as likely to be right" (II. 502); a doctrine which, if it has any meaning at all, would immediately reopen the floodgates of superstition, and reverse the conclusions elsewhere maintained by its author.

But of all the ideas that Buckle has borrowed from the "metaphysicians," he has used none so freely as their theories concerning the distinction between induction and deduction; and nowhere is his want of philosophical training more painfully evinced, and this in three different directions: (1) as regards their abstract nature; (2) as regards their historical exemplification; and (3) as regards their connexion with the accumulation and diffusion of knowledge. His account of the two methods is, at first starting, sufficiently accurate, though rather vague. "Induction is from particulars to generals, and from the senses to the ideas; deduction is from generals to particulars, and from the ideas to the senses" (II. 419). But on proceeding to explain what are the general propositions from which deduction sets out, he makes the following extraordinary assertion:

> "The deductive thinker invariably assumes certain premisses, which are quite different from the hypotheses essential to the best induction. These premisses are sometimes borrowed from antiquity; sometimes they are taken from the notions which happen to prevail in the surrounding society; sometimes they are the result of a man's own peculiar organisation; and sometimes . . . they are deliberately invented, with the object of arriving, not at truth, but at an approximation to truth." To which he adds that, "a deductive habit, being essentially synthetic, always tends to multiply original principles or laws; while the tendency of an inductive habit is to diminish successive analysis" (II. 420). Yet we have been previously told that "the inductive philosopher is naturally cautious, patient, and somewhat creeping; while the deductive philosopher is more remarkable for boldness, dexterity, and often rashness" (II. 419).

One need only look at the mathematical sciences, which are universally admitted to be deductive, to see the absurdity of all this. To ascend from the part to the whole must always be *cæteris paribus* a more daring and hazardous process than to descend from the whole to the part. The truth is that what

Buckle had in his mind throughout was not the opposition between two kinds of reasoning; but between reasoning on the one hand, and observation and experiment on the other. For, he mentions America as an extreme instance of the inductive spirit, and Germany of the deductive. Now, the Americans are well known to be excellent observers, but they have not contributed much to our stock of generalisations, either by the discovery of new, or by the resolution of old laws; while German philosophy is remarkable for its habit of challenging current assumptions, and for its constant endeavour to construct systems out of the fewest possible first principles. Yet this interpretation, while it gives an intelligible meaning to some passages, is irreconcilable with others which seem to confound induction with the general principle of all reasoning, the demand of a proof, while deduction is represented as the submission of reason to unsupported authorities. Accordingly the one method is characterised as theological, and the other as anti-theological (II. 411 ff.). The distinction cannot, in my opinion, be maintained. Particular facts may be, equally with general propositions, taken for granted or accepted on faith, and theological systems not only may be, but have been, built up out of such alleged facts, with no more aid from general assumptions than is necessary to any inductive process whatever. And the errors of such a system, or of any system, may often be most effectually overthrown by showing that it involves a contradiction, either of its general propositions with each other, or of those propositions with their logical consequences, that is to say, by deductive reasoning. It has even been held that the function of syllogistic logic is essentially negative, that it only amounts to the complete elimination of self-contradiction from thought. Buckle most unfairly opposes the rigorous and scientific employment of the one method to the loose and popular employment of the other, thus altogether missing the close connexion which recent logicians have shown to subsist between them.

When Buckle proceeds to illustrate the different types of reasoning by a survey of the literatures where he supposes them to be exemplified, his original misapprehension is continued and reinforced by other misapprehensions in the interpretation of those literatures. The Scotch intellect in the eighteenth century is chosen as an example of the deductive spirit; and the tendency of Scotch metaphysicians to assume the existence of ultimate principles in the human mind is given as an especial instance of its operation. An historian might perhaps be equally justified in taking Hume, Adam Smith, James Mill, and Thomas Brown, who all pursued the contrary method, as the genuine representatives of Scotch philosophy.

But, passing over this objection, is it not obvious that we have here a confusion of psychology with logic; that to insist (whether rightly or wrongly) on the indecomposable character of certain mental phenomena; to maintain even that we have internal sources of knowledge independent of experience—is an entirely different thing from preferring one kind of demonstration to another? It might as well be said that the chemist who believes in the indecomposable character of the so-called elements, is more deductive than he who seeks to resolve them all into a single substance, as that the *a priori* psychologist is so distinguished from his analytical rival. Indeed, of the two I should say that he who evolves all the manifold varieties of consciousness from the combinations of a few simple feelings, approaches nearest to the mathematical, and therefore to the deductive method. The common-sense school, as their very name implies, were not reasoners at all; they never went beyond a superficial description and classification of the mental phenomena.

In dealing with the origin of this so-called philosophy, Buckle is equally at fault. According to him its method is theological, its results are secular and liberal. The truth however is that Hutcheson, the founder of the school, borrowed his innate principles from Shaftesbury and Butler who, being English, ought, on our author's view, to have taught the contrary system; while the habit of assuming their existence, once introduced, found high favour with orthodox Scotchmen because it seemed to make for the spirituality of the soul and the supernatural origin of conscience; thus furnishing a welcome support to those dogmas by which they were still powerfully affected. We are told that, in Scotland, the intellectual classes have long been remarkable for "boldness of investigation and freedom from prejudice" (I. 225). I believe all continental critics will agree with me in thinking that they have been, comparatively speaking, much more remarkable for narrowness and timidity.

It is quite in accordance with his singular view of method, that Buckle should declare Hume's metaphysical essays an exception to the generally deductive character of Scotch philosophy. For Hume was both the most sceptical of all thinkers, and the one who carried the experiential system farthest. Yet, looking not at the matter but at the logical form of those essays, I do not see how they can be distinguished from his other writings. For reasons already suggested, I should be inclined to consider them better examples of deduction than of induction. But, properly speaking, there is a stage at which speculation is so little developed that it cannot be brought

under any strictly defined type of reasoning at all. Its method is then that of analogy, a rough attempt to interpret the unknown in terms of the known. The *Natural History of Religion* is a good example of this process. Hume, without investigating the evidence furnished by travellers, declared that polytheism was the natural religion of savages. Does it follow that his conclusions were evolved out of his own mind? By no means. He argued from the widest experience that the more abstract and universal a notion is, the more difficult is it to grasp; and that the higher manifestations of mind follow instead of preceding the lower. In fact, he argued from all that was already known by experience of children, of uneducated persons, and of savages, to what still remained to be known of these last. To collect the facts about savage belief, and then to restate them in abstract terms, would not have been induction, because it would not have been reasoning of any kind, but simply description.

Buckle's account of Adam Smith is open both to these and to other criticisms. The works of that great thinker are represented as a perfect type of the deductive method. The *Theory of Moral Sentiments* and the *Wealth of Nations* are interpreted as complementary portions of a single science, having for its object the reduction of human nature to law. The peculiarity of the scheme is that the two grand motives of human action are separately considered, and treated apart from each other's disturbing action. These two motives are sympathy and selfishness; the one is discussed in the *Moral Sentiments*, the other in the *Wealth of Nations*. By a logical artifice, each in turn is assumed to be the whole factor in human conduct; although in reality their effects are always conjoined. Buckle exemplifies what he supposes to have been the method of Adam Smith by a singularly unlucky illustration from geometry. Real lines, he tells us, always have both length and breadth, but the geometrician, in order to avoid insoluble complications, assumes that they possess the former attribute only. We are not informed whether he subsequently rectifies his omission by postulating lines which have breadth without length; but to complete the parallel he certainly ought to do so. A much more pertinent illustration would have been furnished by dynamics, which really does begin with the effect of forces taken singly, and afterwards proceeds to study them in combination. I conceive, however, that no such idea ever entered the head of Adam Smith as is attributed to him by his admirer. His two great works would, indeed, according to Buckle's theory, serve, not to complete, but to contradict and upset each other. For, be it observed, they do not study simple tendencies

but actual concrete facts of history and everyday life. To say that whatever men feel and think and do is the effect of their sympathies, and then to say that it is the effect of their selfishness, would, if these two forces were necessarily opposed to one another, be simply an unintelligible paradox. But the *Theory of Moral Sentiments* is, as its very name implies, an inquiry into the origin of certain feelings, which are nowhere assumed to exercise a paramount influence over human conduct; nor, although they are derived from sympathy, do they exhaust its manifestations. Neither do sympathy and selfishness, in Smith's view of them, either divide the whole field of human nature, or reciprocally exclude one another.[1] The tendency to give and to seek for sympathy does not, in its original form, imply any self-sacrifice, and, in its more complex manifestations, is eminently favourable to that desire for wealth which Adam Smith regards as the principal cause of economic progress. Thus the *Wealth of Nations*, so far from taking up a psychological position opposed to, or lying outside, that of the *Moral Sentiments*, simply assumes the existence of desires which, in that work, had been explained, whether rightly or wrongly, as a particular manifestation of our social feelings. Moreover, even if its reasonings were based on the supposition that selfishness (in its narrowest sense) is the sole spring of action, they would not give a complete account of it, but only of so much as is concerned with the production of economical phenomena; while, again, the analysis of those phenomena embraces a variety of topics with which the science of human nature, properly so called, has nothing whatever to do.

But if Adam Smith's works do not, when taken together, constitute a deductive psychology, can it be said that each of them singly is an example of the deductive method? Certainly not according to Buckle's own definitions. For the *Theory of Moral Sentiments* makes no unsupported assertions; it perpetually appeals to experience; and, instead of multiplying ethical principles, seeks to reduce them to one. Neither does the *Wealth of Nations* reason down from causes to effects, but, contrariwise, ascends from effects to causes, which, we are elsewhere informed, is a process characteristic of induction (II. 515). We begin with the division of labour, and are gradually led on to exchange, to the circulating medium, and to the different elements of price. Our modern systems are arranged on the opposite plan; they follow the objective order of things, not

[1] That is, according to the present use of terms, which is also Buckle's. Adam Smith says that sympathy is not a selfish principle, using selfish in a much narrower sense than ours.

the subjective order of thoughts. It is true that Adam Smith does not obey the rules of induction laid down by Bacon; but then no science ever was, or ever could be, constructed in accordance with those rules. The same remark applies to Scotch physical philosophy. No doubt, it was largely hypothetical, conjectural, and not immediately verified by experience. But when was there ever a physical philosophy of which the same could not be said? Buckle does, indeed, draw a very marked distinction between the literatures of Scotland, on the one hand, and of England and France on the other. The former alone, according to him, was deductive, the latter two were inductive. But, had he taken pains to analyse the productions of English and French philosophy from the logical point of view, he could hardly have failed to notice how little they differed, in that respect, from the Scotch systems. He admits that Harvey and Newton used the deductive method. But Harvey and Newton between them represent half the scientific English intellect of their century; and if we add Hobbes, who assuredly reasoned from generals to particulars quite as much as, if not more than, Adam Smith, the balance will incline heavily against induction. Observation and experiment were, it is true, the favourite employment of English science in the eighteenth century; but these are only subsidiary operations, not to be confounded with the generalising process itself.

With regard to the French philosophy of the same period, only a preconceived theory could have made anyone blind to its predominatingly deductive character. To prove this, I need only quote what M. Taine, a most competent authority, has stated on the subject:—

"Suivre en toute recherche, avec toute confiance, sans réserve ni précaution, la méthode des mathématiciens; extraire, circonscrire, isoler quelques notions très-simples et très-générales, puis, abandonnant l'expérience, les comparer, les combiner, et du composé artificiel ainsi obtenu, déduire par le raisonnement toutes les consequences qu'il enferme: tel est le procédé naturel de l'esprit classique. Il lui est si bien inné qu'on le rencontre également dans les deux siècles, chez Descartes, Malebranche et les partisans des idées pures comme chez les partisans de la sensation, du besoin physique, de l'instinct primitif, Condillac, Rousseau, Helvétius, plus tard Condorcet Volney, Sièyes, Cabanis et Destutt de Tracy. Ceux-ci ont beau se dire sectateurs de Bacon et rejeter les idées innées; avec un autre point de départ que les Cartésiens, ils marchent dans la même voie, et comme les Cartésiens, après un leger emprunt ils laissent là l'expérience." *L'Ancien Régime*, I. 262-3.

It may be added that pure mathematics and astronomy, of which the former had always been deductive, and the latter had recently become so, were the sciences most successfully cultivated by Frenchmen at this period; that Haüy, the great minera-

logist, was, according to Buckle himself, indebted to deduction for his famous discovery; and that the igneous and aqueous hypotheses in geology, which are given as instances of the same method when respectively employed by a Scotchman and a German, had already been similarly employed by Buffon, a representative French thinker. But the syllogistic character of the French intellect is so notorious that it would be wasting words to illustrate it at greater length.

Such a profound misconception of the logical methods, whether considered in the abstract or the concrete, may have either produced or originated with an equally profound misconception of their sociological function. In order to carry out his parallel between the economics of industry and the economics of intellect, Buckle, as we have already seen, associated the accumulation of knowledge with employment of the deductive method, and its diffusion with the opposite procedure. Greece, Scotland and Germany are examples of the former; England, France and America of the latter. The nations belonging to the first group are remarkable for great breadth and boldness of speculation, but also for the deep gulf left between the intellectual classes and the mass of the people; while, in nations belonging to the second group, fewer great thinkers have arisen, but enlightenment has been more widely diffused, and, in England at least, a more regular development of civilisation has been secured. Three distinct grounds are offered in explanation of this alleged fact. Deductive reasoning rests on unproved assumptions. So also does theology, the great obstacle to intellectual progress; therefore it cannot be overthrown by a method partaking so largely of its own spirit. I have already taken occasion to show that this argument is invalid. The assumptions of science, not being accepted on authority, cannot favour authority; and false assumptions may be dialectically, as well as experimentally, overthrown. I have now to add that, granting the French philosophy of the last century to have been both deductive and sceptical, the possibility of a close connexion between the two characteristics is demonstrated; and a further proof will be found in the circumstance that English scepticism has always flourished most when deduction has been most generally employed. Buckle's second explanation is much more plausible. Where philosophers are removed from contact with the people, they will remain less affected by popular prejudices and less concerned about the consequences of their teaching. For that reason the physical schools of Ionia and Magna Græcia were far more daring in their denials than the ethical schools of Athens. Nevertheless, when the people have once become thoroughly sceptical their sympathy and support will give a fresh impetus to advanced thought among their

teachers. That is just what is happening in Germany now. On the other hand, where the people are both educated and bigoted, such a mere trifle as logical method will not prevent them from exercising the sternest control over their university professors. Hence the official science of Scotland is remarkable for its orthodoxy. Even Adam Smith was obliged to show of what edifying religious applications his moral theories admitted; and the conservative tendencies of the "common-sense" school have already been mentioned. So far the respective influence of the two systems, as viewed by Buckle, is negative rather than positive. The one, according to his theory, does, and the other does not, remove the causes of popular superstition. The one does, and the other does not, leave the foremost minds completely free to work out the remotest consequences of their speculations. We now pass to the positive reason why induction should contribute more powerfully than the rival method to a general diffusion of knowledge. We are told that this is because the observations on which it rests, being accessible to a far greater number of minds, are proportionately better appreciated and more readily accepted than the abstract reasonings of deduction. Possibly our author may have had in his mind various passages where Aristotle describes induction as clearer, more persuasive, and more popular than the syllogism, which, on the other hand, is more cogent, and corresponds better to the order of natural causation. Such a distinction, however, applies rather to the loose illustrative induction of the Greeks than to the rigorous observations and experiments of modern science, where the facts are often much more abstruse than the inferences founded upon them. What these facts are can only be known to a few; the vulgar either remain ignorant of their existence or else take it on trust; and, when faith is once admitted, all kinds of conclusions may profit by it equally, irrespective of the evidence on which they rest. Again, when Buckle says that "for one person who can think, there are at least a hundred persons who can observe" (II. 582), he forgets that induction, being a process of reasoning, is necessarily a process of thought. Nor has the greater or less difficulty of understanding and practically applying a principle when once discovered, anything to do with the kind of investigation by which it has been reached, or of proof by which it has been established. It might also be easily maintained that while the tendency of generalisation is to lead us away from experience, the tendency of deduction is to lead us back to experience. A new truth may easily commend itself to the popular mind by explaining a multitude of phenomena which never would have suggested it to the original discoverer. Nothing serves to extend a knowledge of scientific theories so

much as the inventions by which they are utilised. But both the making and explaining of inventions are essentially deductive processes; they are the application of general laws to concrete facts. The truth is that, while all knowledge tends spontaneously to spread, the means by which its diffusion can be hastened have little or nothing to do with the order of investigations by which it was first obtained. The remark may seem commonplace, but popular education is not a question of logical method at all. It depends primarily on scholastic machinery, and more remotely on religion, literature, and government, that is to say, on agencies which Buckle has summarily excluded from his scheme of intellectual progress.

The theory of logical economy equally breaks down when we come to examine its historical verification. It is not true that Greek philosophy had no power to diminish popular superstition. One need only compare Euripides with Aeschylus, or even Xenophon with Herodotus to appreciate its effect. Without it, indeed, the conversion of the Roman world from a naturalistic polytheism to an ethical monotheism could never have been accomplished; without it Roman jurisprudence could not have been rationalised; without its revival mediæval darkness could not have been so speedily dissipated. The case of Germany is still stronger. No doubt, the state of German middle-class education leaves much to be desired, and, by all accounts, is rather deteriorating than improving. No doubt, also, there is a deep division between the intellectual classes and the rest of the people. But this is due far more to the literary peculiarities of German philosophy than to its method of research. The public are repelled by speculative treatises, not because they reason from first principles, but because they are detestably written. A profoundly speculative work like the *Philosophy of the Unconscious* will run through several editions, if its style be but tolerably good. For the same reason Buckle's own book has had a great success in Germany—greater even than in England—although its method is rather deductive than inductive. But whether German philosophy be popularly studied or not, the scepticism now diffused through every class in Germany bears witness to the immense influence which it exerts on public opinion. If it is to be taken as a symptom of superstition that the Scotch churches are "still crowded with devout and ignorant worshippers," (II. 589), it must surely be taken as a symptom of the contrary that the German churches are so scantily attended. Whatever Buckle says of Scotland is just what a continental critic would say of England, and if so, every such charge would redound to the discredit of the inductive method which is supposed to have regulated our civilisation. Again, one would sup-

pose from Buckle's language on the subject that the northern and southern divisions of Great Britain were sundered either by a difference of language or by an impassable frontier, instead of reading the same books, profiting by the same discoveries, and carrying on an uninterrupted exchange of ideas. Whatever our literature has done for ourselves, it ought to have done, although perhaps not to an equal extent, for the Scotch. A less ingenious theorist than Buckle would probably have been contented with a more obvious explanation of whatever bigotry still survives in Scotland. Having once struck deeper root, the theological or puritanical spirit has naturally remained stronger in that country than in England or France, but there seems no reason for believing that Scotland compares with them, in that respect, more unfavourably now than at any time during the last three centuries. Granting that she is not yet on a level with them it does not follow that she has not made equal progress in the same period. And if, as will hardly be denied, she is no longer (for good or evil) in the religious condition of the seventeenth century, why should not the change be attributed, at least in part, to her philosophy? It is no little matter that she should have produced two such writers as Burns and Scott, at once so national, so popular, and so filled with the secular and humanistic spirit of modern civilisation. Surely their appearance, coming when it did, together with that of the numerous minor luminaries who surrounded them, was not unconnected with the triumphs already won by their predecessors in the more abstract spheres of thought. And if Scotch literature cannot truly be said to have exercised no influence on the national spirit, neither can it be said to have received none in return (II. 586). If the Scotch thinkers, with one exception, let theology alone, this was not from any incapacity on their part to call in question its fundamental assumptions; but because they either shared its beliefs, or were deterred by the strength of public opinion from openly assailing them. And the solitary exception, Hume, differed from his contemporaries not because he employed the inductive method, but because he lived a good deal abroad, and never held a university professorship at home.

We have seen, then, that the philosophy of individualism, when carried from the economics of material industry into the more complex economics of mental energy, gives rise to misconceptions and inconsistencies at every step. After the whole weight of human progress has been thrown on advancing knowledge, the basis of knowledge itself is so isolated, so narrowed, so weakened by internal disintegration, that the resulting strain terminates in a complete collapse. Where the analogy of material industry might have been profitably employed, it is

neglected. Where the laws regulating production, distribution, and governmental interference are inapplicable, they are forcibly imposed on the phenomena. Standing by the ruined edifice we ask ourselves on what other plan it could have been built. The answer is that, first of all, the materials which our architect pushed aside must be properly utilised. We must not isolate from each other forces which are only different aspects of a fundamental unity, inseparable in the completed idea no less than in the living fact. We must overcome these scholastic antitheses of nature and man, morals and intellect, imagination and understanding, emotion and reasons, induction and deduction. We must cease to look on the governing classes as eternal blunderers and bullies. In the history of our race, everything is natural, everything is human, everything emotional, imaginative, and moral. I will even say that, using the word religion to denote the provisional synthesis of these various agencies, and extending the word government to all forms of co-operation, whether spontaneous or permanently organised, everything is religious and governmental. Still more, if possible, must we recognise within each department a necessary consensus of functions. Whatever makes for the accumulation of knowledge makes also for its diffusion, and reciprocally. Without hypothesis there would be no induction, and without experience no deduction. The one process, as Professor Jevons has shown, is an inversion of the other. Moreover, the generalisations with which our inquiries begin are partial and precarious; their growth in solidity and in sweep is proportioned to the number of particulars successfully explained by their application. Neither can the intellect of any nation continue to advance without perpetual excitement from its neighbours; and it is here, I think, that we can learn the most valuable lessons from Buckle. He was right in assigning a distinct scientific genius to each of the great civilised peoples; but the narrowness of his own economic scheme prevented him from discerning what were, in each instance, the differential characteristics. I firmly believe, however, that such a comparative psychology is possible, and that even now its outlines might be traced. For example, at the beginning of this article I have attempted to show that there is a unity of composition running through the most divergent manifestations of our modern English philosophy. But this is a vein of thought which cannot be worked out any farther within my present limits.

It would have been impossible to tell beforehand what view of history would be taken by the studious son of an English merchant, whose opinions were formed during the great agitation for free-trade. But, when we know by experience what

view he actually did take, the theory seems to be in perfect harmony with a social environment of which it was the most interesting, though not the most highly organised nor the most enduring expression. In endeavouring to represent Buckle's philosophy as something more than a mere product of individual genius, I have been faithful, amid all differences, to that most general principle which it shares with every philosophy worthy of the name, and which it has contributed so powerfully to enforce. Twenty-five years ago the idea of law, universal and unbroken, was almost a paradox. It is now almost a commonplace; and among those by whose efforts so vast a change in public opinion was accomplished must be placed the name of this noble thinker, whose learning and eloquence have not often been singly equalled, and, in their combination, have never, to my knowledge, been approached.

ALFRED W. BENN.

V.—NOTES AND DISCUSSIONS.

PROFESSOR WATSON ON TRANSCENDENTALISM.

The 6th chapter of my *Defence of Philosophic Doubt* has been unfortunate enough to provoke an attack from Professor Watson which appeared in MIND XX. The subject of this chapter is primarily the Transcendental Philosophy as at present expounded or rather adumbrated in England, and indirectly the philosophy of Kant on which this English transcendental philosophy is professedly based. On Kant Professor Watson is understood to be a competent authority: and for this, if for no other reason, his strictures deserve some notice from me. But I must premise my observations by remarking that now—as previously in the chapter which has elicited his criticisms—I shall avoid as much as may be dealing with Kant directly. I must decline to add to all the difficulties inherent in a philosophic controversy of peculiar difficulty the further difficulties which beset any one who pretends to decide as to which of the various inconsistent opinions expressed or apparently expressed by Kant, was the one he really entertained.

The first serious criticism which Professor Watson makes against me arises from no difference of opinion between us but from a misconception on his part as to my meaning. He seems to imagine (p. 530) that I hold it to be the duty of the philosopher to prove all the "special facts of observation" and "all the special laws of the natural sciences":—a duty which Professor Watson very properly describes as a "heavy burden". I do not recollect any passage or even any phrase on which such a view of my meaning could be founded. I am surprised that it could be held even after reading the chapter against which Professor Watson's attacks are directed, and I feel certain that

it could not survive a perusal of my whole book. It is true no doubt that there is no belief with the grounds of which Philosophy is not in a sense concerned. But it is also true that there is no proposition formally demonstrated with the proof of which Logic is not in a sense concerned. It is not, however, (as I need hardly remind Professor Watson) the business of logicians to supply appropriate syllogisms for every conclusion which may be syllogistically deduced.

This criticism however is the prelude to one of more importance, which raises a question of great moment on which there really appears to be a difference of opinion between Professor Watson and myself.

"The special facts of ordinary knowledge and the special laws of the natural sciences are not," he says (pp. 530-531), "propositions which the philosopher seeks to prove but data which he assumes. Of all our knowledge the conclusions reached by mathematics and physics are those which we have least doubt about; and hence I do not understand how Mr. Balfour can object to the philosopher assuming to start with 'the truth of a large part of what is commonly called science'. I have no objection to find with Mr. Balfour's assertion that a philosophy must consist partly of premisses and partly of inferences from premisses. I should certainly prefer another mode of expression. . . . but as Mr. Balfour probably only means to say that there are certain facts which do not stand in need of proof by philosophy and certain conclusions which it is the business of philosophy to prove, I am content to accept his way of stating the case. My objection lies against what he very strangely supposes to be the premisses of Transcendental Philosophy. The actual premisses of Kant are the special facts of ordinary experience in the widest sense and especially the facts and laws of the mathematical and physical sciences."

Nothing can be plainer than the meaning of this passage, and nothing, I admit, would seem more clearly to express a view of Philosophy opposed to my own. While I hold that it is the business of Philosophy to furnish a rational basis for Science, Professor Watson and Kant, according to Professor Watson, say that Science should supply the rational basis of Philosophy—unless indeed Professor Watson is prepared to distinguish between the rational basis of Kant's system and his "actual premisses". No difference of view can be well more profound, and if it really exists between the Kantians and myself I have only to say that I am sorry to have misunderstood them, and still more sorry to have introduced into my book a discussion which had it been founded on a true view of their opinions must, for that reason alone, have necessarily been irrelevant. As Professor Watson would have seen, if he had looked at any part of my essay beyond the chapter he criticises, the main object I had in view was to examine the various methods by which philosophers have sought to establish the principles which Science assumes: and which, if they be not established, leave Science a mere system of dogmatic assumptions.

It is manifest that in pursuing such an inquiry I could have no concern with philosophers who think with Professor Watson (p. 535) that the truths of science "are the facts from which they start, not the conclusions which they desire to reach"; and who must apparently be credited with the remarkable opinion that the *conclusions* of mathe-

matics and physics, since they are the portions of our knowledge "*which we have least doubt about*" (*cf.* p. 531), are *more* certain than the premisses from which they are inferred. Holding these views, it is only natural that Professor Watson should take the "strongest exception" (p. 532) to the manner in which I have stated the Transcendental Problem:—and I admit at once that it is neither the way in which Kant and his followers state it, nor is it the way in which it is most conveniently stated for getting a general view of the Kantian System. But I must point out that I was neither writing a history nor an exposition of that or of any other system. I came to Kant, and to Kant's recent expositors in this country, to see if I could get a solution for a particular problem; and had that problem been precisely identical with the one which these philosophers had in view when they wrote, doubtless I should not have had to present their doctrines in any other shape than that which they had themselves chosen. Unfortunately it was not so. Kant never dealt with scientific scepticism in its simplest and most direct form: and he never dealt with it at all out of connexion with metaphysical dogmatism. His system was framed in order to answer questions suggested by the speculations of his predecessors: it is not unnatural therefore that some change in its form should be required before we can conveniently determine whether it can furnish a solution of difficulties with which his predecessors, including Hume as known to Kant, did not concern themselves.

Had then Professor Watson understood the point of view from which my book was written, he would have seen why it was that I represented the Transcendentalist as asking the Sceptic to admit as a starting point the trustworthiness of (say) some fact of immediate perception. Such facts are certain, and are certain in themselves, *i.e.*, are not matters of inference; they are therefore fitted to be the basis of a system of knowledge. Could the Transcendentalist show that in such facts are necessarily involved the fundamental principles of Science—could he even show this of causation and the persistence of the (so-called) external world—he would unquestionably have done much towards establishing a Philosophy of Science. I was forced to the conclusion, after as careful a consideration both of the general method of Transcendentalism and of such particular application of it as I could give, that this had not yet been done. It is the less to be regretted as Professor Watson seems to be of opinion that it has never even been attempted. If so it is entirely unnecessary to waste time, so far as my criticisms are concerned, in showing the philosophic soundness of the Transcendental system. Sound or unsound, it gives no answer to the question I wish to ask, nor key to the problem I wish to have solved.

"The difficulty," says Professor Watson (p. 532), "is not a quantitative one. Nothing is gained by reducing the facts postulated to a minimum so long as the sceptic is asked to admit a fact at all; and if he does admit such a fact as the immediate perception of a colour or taste, why should he refuse to grant the carefully established laws of the special sciences? Is the evidence for the consciousness of the law of gravitation less urgent than the evidence that a coloured object is perceived?"

If Professor Watson will reflect on various considerations which I have given at length in my book, he must, I think, perceive that the difficulty *is* to a certain extent a quantitative one, that there *are* a great many reasons why we should give more credit to immediate perception of colour and taste than to the laws of the special sciences, and that the evidence for the consciousness of the law of gravitation *is* much less urgent than the evidence that a coloured object is perceived. To the language of the last sentence I have quoted, I must indeed take as great exception as I do to its apparent meaning. When we believe that we are perceiving a coloured object we do not do so on any evidence at all. The belief is immediate. Such phrases as the 'evidence of our senses' or 'the evidence of consciousness' are, when used in such cases, either metaphorical or erroneous. And, again, what is "the evidence for the consciousness of the law of gravitation"? I cannot admit that we can properly be said to be conscious of the law of gravitation; nor, that if we could be so conscious, any evidence for the fact would be either possible or necessary. I do not however desire to indulge in any merely verbal criticisms. It is sufficient if I have made it plain—(1) that my method of stating the Kantian doctrine of phenomenal knowledge, however ill-suited to a general exposition of the Kantian system, was a necessary preliminary to obtaining the answers to the only question I happened to be concerned with—*viz.*, what are the rational foundations of our scientific conclusions; and (2) that Professor Watson thinks that this question is absurd, partly because he holds that many of our scientific conclusions are more certain than any other knowledge we possess (p. 531) and are in particular more certain than our immediate perceptions (p. 533), and partly because these conclusions are the premisses of that very philosophical theory on which I had erroneously supposed that Kant and his followers founded them.

It must not, however, be supposed that in Professor Watson's view transcendental doctrines are only related to scientific conclusions as inferences are to premisses. On the contrary, if it is the business of the Transcendentalist to start from the special truths of science (p. 535), it is not less, it appears, his business to shew that these latter are "universal," "absolute," "necessary," or "objective" (pp. 531, 532, 537). Now what is the precise character of this operation? Professor Watson has told us in language of the clearest description that it cannot include any proof of their truth, since he holds, as we know, that their truth is the primary assumption of philosophy. Nevertheless the following quotation seems difficult entirely to reconcile with this opinion:—

"If the sceptic," says Professor Watson (p. 531-2), "is so unreasonable as to ask the philosopher to prove the truth of any law of physics, the philosopher will at once refer him to the physicist: all that he pretends to do is to shew that the law is not a mere fiction of the individual mind, but can be accounted for by the very nature of human intelligence. On the other hand, should the theory advanced be such as to reduce our knowledge to a mere series of individual feelings, we shall of course have to admit that the

parts of individual consciousness have no universality or necessity; we shall, in other words, be compelled to say that there are no facts in the ordinary sense of the term, but only supposed facts or, if you will, fictions. It will no longer be safe to say that there is a real connexion between objects, but we may at least say that there is a real connexion between what we ordinarily understand by objects."

It appears then that, even according to Professor Watson, Philosophy, no less than Science, has important, if somewhat obscure, functions in the region of scientific proof. While Philosophy tells us that there is a "real connexion between objects," Science shews that there is a "real connexion between what we call objects". While Philosophy shews that a law is not "a fiction," Science shews us that it is "true"; and, lastly, while Philosophy shews that a law is "universally" true, Science shews that it is one which should be accepted by every individual in the universe. It would appear, then, from this extract that, so far as the manufacture of scientific proof is concerned, the principle of the *division of labour* as between Science and Philosophy is carried out to a very extreme point—and with a degree of refinement which makes the paucity (so far) of the actual result all the more painfully conspicuous.

The perplexity into which we are thus thrown respecting the real view Professor Watson holds as to the relation in which Philosophy stands to scientific proof is increased rather than diminished by a further perusal of his criticisms. For he tells us (p. 533) that in the mathematical and physical sciences certain metaphysical principles are tacitly assumed—and that the philosopher has forced upon him the duty of "justifying them *if possible*". If this be a duty forced upon him, the Kantian philosopher (according to Professor Watson) would seem also to be forced by an equal necessity to argue in a circle. He starts, we are told, from the conclusions of the mathematical and physical sciences: and in the course of his investigation he finds himself obliged (if possible) to justify the assumptions on which the premisses from which he reasons ultimately depend! Again (p. 537) Professor Watson says:—

"Kant invariably assumes the truth of the mathematical and physical sciences, and only asks how we are to explain the fact of such knowledge from the nature of such knowledge itself. It is true that he qualifies this unlimited statement so far as to admit that the special sciences are ultimately dependent for their truth upon philosophical criticism; but the qualification applies, not to the special truths which form the body of the sciences, but to the universal principles which they take for granted, and which, strictly speaking, belong to metaphysic."

But what I should like to know is the value of Kant's "invariable assumption" when so qualified? What is the use of the most vigorous assertion in one sentence when it is followed by so enormous an admission in the next? Kant (according to Professor Watson, p. 537) would have thought it "mere folly to ask philosophy to prove what no one denies," though at the same time he thought it the business of philosophy to establish the principles on which "what nobody denies" finally depends for its proof. Consistency, verbal

consistency at all events, is not to be expected in Kant:—but we have some right to ask that his modern exponents should do something more than repeat his inconsistencies in a crude and unqualified form. The facility with which Professor Watson does this arises perhaps in part from that "thorough familiarity with the subject" of the Kantian philosophy, which he says, p. 543, (I fear only too truly) that I am deficient in, and which, I doubt not, he possesses to an eminent degree. This familiarity, however, has its dangers. To contemplate all speculative questions from the inside, so to speak, of our particular system, may indeed give the "sureness and lightness of touch" in dealing with that system which Professor Watson feels to be so deficient in my reflections on the Transcendental Philosophy. But it has some tendency to render the philosophical critic incapable of approaching his favourite system except on its accustomed side and by a path well trodden by previous expositors, and may render him insensible to the difficulties, and even to the contradictions, which appear in it when it is looked at from an unusual point of view.

However this may be, Professor Watson must make his choice between two views regarding the Kantian philosophy which cannot both be true, but for both of which some support may be found in his criticism on me. Either Transcendentalism intends (among other things) to give a rational foundation to science, or it does not. If it does, then let it avoid assuming the truth of that which it proposes to prove. If it does *not*, then it would seem to be merely a hypothesis framed to account for the fact that we *have* scientific knowledge, and it will require a previous investigation (very much needed in my opinion) to show what that knowledge is which we can properly be said to have. If this latter alternative be accepted by the Transcendentalists (which, in spite of Professor Watson, I cannot entirely believe), then, of course, nobody who, like myself, is chiefly concerned with the justification of beliefs need trouble himself further about the matter. If the former, it will hardly be possible to carry on a discussion usefully as to the details of Kant's proof with any one who, like Professor Watson, says that the thing to be proved is more certain than any other part of our knowledge, and has moreover the peculiar property of supplying the premisses by which its own truth is to be demonstrated.

I therefore do not go further into the details of Professor Watson's criticism: though I may perhaps mention that it is somewhat hard to accuse me (p. 545) of thinking that "the Transcendentalist seeks to make good his position by analysing *after the method of formal logic* the ordinary or uncritical knowledge which we all possess," considering that, while I have said nothing, so far as I know, to justify this opinion of my views, I have actually (p. 97) contrasted the logical with the transcendental manner in which one truth is involved in, or implied by, another.

Since writing the above it has occurred to me that perhaps Professor Watson has only seen my article in MIND XII. (to which alone he

refers) and is unaware of the existence of the book for which that was written, and in which it has since been incorporated. If this be so it would account in part for the misconception as to my point of view under which he labours, though it does not, I think, necessitate any alteration in the remarks I have made above.

ARTHUR JAMES BALFOUR.

MR. SPENCER'S PSYCHOLOGICAL "CONGRUITIES" (I.).

In issuing a Third Edition of his *Principles of Psychology*, Mr. Spencer has interpolated a new Part between his "General Analysis" (VII.) and his final "Corollaries" (formerly VIII., henceforth IX.). The new Part (VIII.) consists of 48 printed pages, so numbered as not to interfere with the old paging, and is entitled "Congruities". It was designed, in the original scheme of the work, as a summary that should bring the several lines of argument to a focus; but hitherto was omitted partly because the author "thought that the harmonies he proposed to point out were so conspicuous that all readers would perceive them". This has "proved to be ill-grounded". Various of his critics, instead of recognising the harmonies that he thought conspicuous, have enlarged upon the incongruities. More especially in the question as between Realism and Idealism, he has failed to satisfy the adherents of either.

For myself, I agree with him in thinking that his conclusions were fully to be gathered from the previous editions. At least, I find in the new Part nothing but what I had in substance learnt before; while I fully admit that the reader will derive considerable benefit from the summary now given. As to Mr. Spencer's feeling of disappointment at the result of his attempt to mediate between the extreme views, I will only say, at this stage, that I think the Realists are to blame; for he is as much at one with them as they could reasonably desire.

The additional Part, however, is a summary of the entire plan of the work; and reproduces, in short, clear statements, all the leading positions. It is but a feeble expression to say that I am in close agreement with Mr. Spencer in all his cardinal doctrines as to the laws of mind, and the connexion between the subjective facts and the material organisation. I add farther my conviction that he has thrown an immense amount of new light upon the whole subject; and rendered intelligible, and even simple, some of its greatest difficulties. The reference of the phenomena to the scheme of Evolution is made up of an array of facts, from which each one can draw his own inference.

The additional Part now under consideration, taken of course with the entire work, affords an opening for some critical observations; and I will select two of the more salient points: one of these being the law of Association of Ideas, the other the problem of External Perception. My remarks, on the present occasion, will be confined to the first of the two.

I must, however, be allowed a passing remark upon Mr. Spencer's expression—"The substance of Mind is in its ultimate nature inscrutable". This is a form of language that is common, but, in my opinion, unscientific. The statement is usually paired with a similar one as to Matter. Now, I am not aware that there is any *substance* of mind. The word, to me, has no meaning; suggests no idea whatever. I cannot say, therefore, whether there is anything that I should care to scrutinise, or that I should be the better for knowing, supposing the present veil to be removed. Certainly, in respect to matter, we seem to know all that is to be known, as far as regards the ultimate properties. What we should desire, both in the one and in the other, is to generalise to the utmost the whole of the phenomena, and trace out with precision their consequences and workings. If there be anything underneath all this, which a grudging power hides from the view, we need say nothing about it; to us, the curtain is the picture. So much in passing.

Mr. Spencer has his own way of stating the ultimate law of the Association of Feelings and Ideas, making out only one law, of which the foundation is Similarity, and the adjunct Contiguity. He admits both processes, but arranges and develops them in a peculiar manner. It would no doubt be interesting to compare the advantages and disadvantages of his treatment with the more usual treatment, which I have followed, whereby Contiguity and Similarity are taken in entire separation, with the admission, of course, that they work together in every act of mental reproduction; but this comparison should be made by an impartial third party. Whatever way the operation is rendered, we must allow that the great fact of education is the joining of one mental element to another; the second being distinct from the first. Mr. Spencer would call the stringing together of the A, B, C, principally Similarity, incidentally, Contiguity; I call it principally Contiguity, but involving also Similarity. However we name it, the physical counterpart is undoubtedly a process of nervous growth or fusion; this goes on quicker in some things, and in some circumstances, than in others; and both psychological theory and educational practice are interested in stating the conditions of rapidity with correctness and precision.

The distinction between emotional states and intellectual states, Mr. Spencer expresses by the contrast of "feelings" and "relations of feelings"; and he justly remarks that the most relational of feelings are the most associable. I should express the same thing, by saying that Association proceeds *pari passu* with Discrimination. The doubtful doctrine comes into the foreground, when he says, "the relational element of mind, as shown in mutual limitation, in strength of cohesion, and in degree of clustering, is greater between feelings of the same order than between feelings of one order and those of another". To this he assigns the physical counterpart "that the bundles of nerve-fibres and clusters of nerve-vesicles belonging to feelings of one order, are combined together more directly and inti-

mately than they are with the fibres and vesicles belonging to feelings of other orders". Again, "Hence the fact that mutual limitation, clustering, and cohesion, characterise visual feelings in their relations with one another, and tactual feelings in their relations with one another, more than they characterise the relations between visual feelings and tactual feelings, corresponds to a trait in the order of environing phenomena as they are habitually impressed upon us".

Now, I believe all this to be quite correct, on the supposition that, by associability is meant grouping according to *likeness* solely; as in putting things into classes; making the sensation of a circle bring up in idea former impressions of circles. In so far, however, as this is *not* the whole fact of association; in so far as association ever implies *linking* one thing to another thing distinct from it, through the circumstance that the two have stood side by side in the actual view;—I do not think that the law will hold. I believe farther, that to omit this aspect is to omit the leading fact in acquisition; a fact which Mr. Spencer cannot desire to exclude, or, if he does, he will not get people to go along with him.

It is important for us to ascertain (1) the comparative associability of the sensations of the separate senses, each within itself, and (2) is the comparative associability of each as coupled with every other —sight with sound, sight with touch; hearing with touch, and so on. On the first point, I think it is an admitted fact, for which good reasons can be assigned, that sight is at the head, and hearing next; the interval between the two not being great. A plausible case could be made out for equality, by dwelling strongly upon the extreme instances of endowment in the ear; as in musical geniuses. But, resting on the law that associability follows discrimination, a case may be made for sight, on the ground that the sense of retinal magnitude is the most delicate sensibility in the human mind; in proof of which it is enough to cite the reduction of all accurate modes of measurement to the discrimination of visible magnitude by the eye.

While hearing comes close upon sight, there is a long interval between it and touch; while the difference between touch, and the two remaining senses is not great; nor is there a very great difference, if any, between smell and taste. When we pass from the regular group of the five senses to the organic feelings (called by Mr. Spencer "ento-peripheral"), there is a very wide chasm of separation, which I am accustomed to look upon as the reason why these were not sooner included in the list of Senses. The early psychology regarded sensation chiefly if not exclusively as the portal of intelligence; and in this view, the five senses are all that deserve special mention.

But now to the question as to the comparative associability of the senses, one with another, when the fact of linking contiguous and differing feelings is made prominent. We will consider first the two highest senses. I will at once assume that the associability of sights with sights, placed in contiguity, is the highest of any; and will raise the question by comparing, in respect of associability, sounds with sounds, and sights with sounds.

Laying the stress, then, upon the fact of linking, and not of classing or identifying, I do not regard Mr. Spencer's argument from the nervous structure as conclusive. I consider all that part of the theory of the nervous structure that refers to the deeper intellectual processes, to be somewhat vague and indefinite. This much, I think, we can say with reasonable probability; namely, that in order to contiguous association, the nerves of the senses concerned must spread out in an ample mass of the hemispheres of the brain, involving both cells and fibres, and that, assuming the nerves of sight and the nerves of hearing to have a large medium of cerebral connexion, associations may be formed between the two, just as readily, as between nerves of either sense by itself. The question is not foreclosed by anything in the nervous arrangements as known to us. In short, we must refer directly to the state of the facts, as given in our experience of our several sense-acquirements.

Now, what do we find in comparing the association of Sounds and Sounds, with the association of Sounds and Sights? As regards Sounds, our best example is language, as remembered by the ear. Take the sequence—sun, moon, stars—committed to memory from being heard. This is an association that we know to be very easily formed; for in the course of early years, many thousands of such groupings are stored in the memory; although the process is not seen in purity now as it was before the age of writing, when one man held in his memory the Iliad and the Odyssey. Take next, the association of Sounds and Sights, as in learning the names of visible things; when, for example, we associate with the sun as seen, the name, sun; with the moon, its name, and with a star the name. Consider the enormous extent of this operation, and how rapidly it proceeds; and I venture to say, that we are not entitled to regard it as inferior to the stringing together of sounds. I do not claim for it a superior adhesiveness, although such is my own private impression, which I might support by reasons; I merely affirm that the cohesiveness of sounds and sights is at least on a par with the cohesiveness of sounds and sounds, and challenge the production of any decided evidence to the contrary.

Let us now descend the scale of the senses. The cohesion of Touches with Touches is manifestly inferior both to the cohesion of Sights with Sights, and to that of Sounds with Sounds. The question then comes, Is it superior to that of Sights and Touches? I answer No: and maintain farther it is greatly inferior; a series or aggregate of touches is much less cohesive, than a touch and a visible picture. The mutual suggestion of sights and touches is a very large region of our education; the associations are extremely numerous, and the rate of acquirement not much less rapid, than the rate of acquirement in the two highest senses.

So with Odours and Tastes. These are largely and quickly associated with visible appearances; and, it would be against all experience to maintain that the association is inferior in plasticity to that of Odours with Odours, or of Tastes with Tastes.

The case of Organic Feelings is the most striking of all. These are

slow and hard to associate with one another; their ideal persistence and recoverability is of a very low order; and it is a patent fact that our principal means of recalling them in idea is through their association with the higher senses, and most of all with sight. The detail of examples would be endless. If we wished to restore the successive feelings of an attack of illness, we should have to think of the visible surroundings and incidents at each stage. The feelings of Cold and Heat are associated with visible things, and visible situations, by whose presence they are readily and strongly recalled.

The Emotions properly so called, as Love, Anger, Fear, and their numerous derivatives, have very little mutual associability; they acquire all their ideal fixity by attachment to visible appearances, in the first place, and to sounds, in the second. I take this to be the very law of their being. I grant still, that in the mere point of view of classing, through Similarity, their grouping with one another is ready enough; one fright will class itself with previous ones; but when a fright is associated with any contiguous experience, it links itself by preference with the visible situation, and after that, with something audible.

Searching for a law of heterogeneous association, I conclude that the facility of contiguous association between two different senses, is as the rank of each in the intellectual scale. Sight and Sound, would be at the top; then Sight and Touch, Sound and Touch, Sight and Smell or Taste, Sound and Smell or Taste: and so on. What is called topical memory, the connecting of the different divisions of a speech with the parts of a building familiar to us, depends on the supposed ease of connecting mental states in general with visible things.

A. Bain.

VI.—CRITICAL NOTICES.

The Power of Sound. By Edmund Gurney, late Fellow of Trinity College, Cambridge. London: Smith, Elder & Co., 1880. Pp. xi. 559.

This volume aims at giving a complete and exhaustive account of the nature and effects of music. While it has a distinct practical and popular aim in reference to musical culture and criticism, and while a considerable section of it is taken up with the criticism of current ideas with respect to the art which are by no means philosophical, it is in the main a very serious attempt to re-cast the philosophy of the subject. More than this, although chiefly concerned with music it systematically discusses its various problems in connexion with those of the other arts, and thus contains a rough theory of art as a whole. In carrying out his design, Mr. Gurney with thorough independence re-examines the whole psychology of the subject. Even the great authority of Helmholtz, which he of course accepts with reference to

the physiology of musical sensation, he is quite ready to dispute when it is a question of accounting for the more complex emotional effects of the art. His views are always fresh and striking, and carefully worked out by help of a wide and exact scientific knowledge. In some respects his doctrine may be said to amount to a new psychological *prolegomena* to all future art-theory. Thus in every way the volume is one which demands careful notice at the hands of the psychological student. In the present review I shall confine myself mainly to the leading psychological ideas on which the whole of Mr. Gurney's elaborate argument is based.

Our author begins by marking off the higher æsthetic senses from the lower. Here he follows pretty closely previous writers, including Mr. Grant Allen. The superiority of the two higher senses consists in their perception of form as contrasted with mere 'colour' or sensuous quality, and this superiority is finally to be connected with the "extreme delicacy and complexity" of their organs—the possession of "a multitude of terminal elements capable of separate individual action . . . combined with extremely rapid recuperation; a combination which renders them most rapidly sensitive to an immense number of differences in the impressions they receive" (p. 10). With respect to the physiological basis of the pleasures and pains of these senses, Mr. Gurney rejects the theory elaborated by Mr. Grant Allen that this consists in "the maximum of stimulation with the minimum of fatigue". I think he shows conclusively that a formula which seeks to express the facts by means of a ratio between stimulation and wear and tear must be inadequate. It may indeed be doubted, as it has been by Fechner, whether any formula relating to mere quantity of stimulation is sufficient. Wundt's attempt to bring bitter tastes, &c., under the idea of an excessive stimulation, ingenious though it is, has rather a forced look. And, as Mr. Gurney conclusively proves, the phenomenon of musical discord, appearing as it does when the conditions of fatigue are manifestly absent, refuses to be regarded, as Helmholtz would regard it, as a case of ordinary nervous wear and fatigue. At the same time one cannot help wishing that Mr. Gurney had discussed this subject of the relation of pleasure to stimulation in the light of the newest foreign views, more especially those of Wundt and Delbœuf, before arriving at the conclusion that "the origin of pleasure is inscrutable".

While the eye and the ear have this capacity for the perception of form in common, there is a noticeable difference between them. The eye habitually groups its impressions into wholes, the ear not so. And this is not sufficiently accounted for by saying that the one organ has to do with space, the other with time: for relations in time are as easily perceived as those in space. The reason is rather that, excluding human speech, every-day sounds do not occur in a definite order corresponding to an objective order (as verified by touch) in the same way as every-day visual impressions occur. And while there is this infrequency in the occurrence of sound-form, there is a still greater infrequency in that of pleasurable or beautiful form. In connexion with this relation of the sensibilities of the eye and the ear to facts of

the environment, Mr. Gurney has an interesting discussion of the way in which the colour-sense and the tone-sense arose. He agrees with Mr. Grant Allen that the colour-sense is of no recent origin though he makes no reference to the views of this writer. He argues ingeniously that neither natural selection nor direct adaptation can have had much to do with the development of the higher degrees of colour-discrimination, though he seems to me much more happy with regard to the second point than to the first. And certainly the argument is a little incomplete by its omitting all references to Mr. Allen's theory that the colour-sense in man or his predecessors was developed in connexion with his frugivorous habits. In the case of the ear, the difficulties in understanding how the power of discriminating tones as distinguished from noises grew up are, as Mr. Gurney clearly shows, much greater still. Yet even here where he shows his best manner in pointing out the obstacles to hasty theorising, he seems to me to slightly overstate the difficulty. No doubt the power of distinguishing noises is generally of more use to an animal than that of recognising pitch. Yet, in the case of man at least, it may be plausibly contended that the perfect discrimination of vocal sound as to its quality or timbre and general level or height, even of the rough and constantly shifting sound which seems to characterise primitive speech, would involve an organ for the discrimination of pitch. And if so, we may imagine, as I have elsewhere tried to show, that among all gregarious and social species endowed with a vocal organ, to the members of which it would be an advantage mutually to discriminate shades of feeling by their effect on the timbre and the pitch, fixed or varying, of the vocal utterance, the structures supposed to be specially concerned in the perception of musical quality would tend to be evolved by natural selection.

After a very careful examination of the peculiarities of the material of music or "unformed sound," Mr. Gurney proceeds to give his definition of an art. A work of art is essentially an organism, by which is meant not only that it presents a complex arrangement and interdependence of parts, but that "its life and growth is *from within;* that it does not (like a piece of mechanism or a scientific treatise) appear as an external result, bearing to its author's activities the relation merely of a manufactured article to a machine; but is an actual picture of the activities themselves, of the author's living ideas and emotions, whose only result is to be reborn as part of others' lives" (p. 45). In other words, in a work of art the subjective imaginative factor outweighs the objective factor, whereas in other human products the reverse relation holds. Further, it is a differentia of a work of art that it should present form to one of the two form-percipient senses, the eye and the ear; and this narrowing of the definition excludes prose fiction which does not appeal to a sense by means of a form.

If now we compare abstract form as addressing itself to the eye and to the ear, we shall find certain well-marked differences. Among these may be mentioned that while in visible structure, as it appears in architecture, the element of form presents itself in the whole, the

parts being regarded in relation to this and having but little individual value, in musical structure it presents itself rather in the individual subjects which go to make up the whole. In music the contiguous parts of a subject have a degree of coherence and necessary connexion to which there is nothing corresponding in the arrangement of architectural details. Another point of dissimilarity is that association appears to play a much more prominent part in visible than in audible form. Once more it would seem, so far as I understand Mr. Gurney, that the beauty of architectural form, though not completely accounted for by any principle of an ordered variety, yet lends itself much more easily to such an explanation than musical form. From which last two circumstances it would follow that we have in the effect of musical form something peculiarly mysterious and unanalysable. And accordingly Mr. Gurney does not hesitate to refer the enjoyment of music to a unique faculty.

In these earlier chapters we have already shadowed forth the two cardinal ideas respecting music of which all that follows is but an expansion and enforcement. Speaking generally, one may say that there have been two ways of explaining the delight afforded by music, that of the formalists who find the secret of its beauty in certain laws of structure, and that of the idealists or associationists who refer it to the peculiar suggestions of the art. Mr. Gurney is, broadly speaking, a formalist and not an idealist; that is to say, he thinks suggestion is no essential ingredient in music. On the other hand, he differs from previous formalists in denying that the beauty of form can be analysed or rationally grounded on general principles. His work has thus a two-fold negative purpose, to show how small a part association plays in musical enjoyment, and to prove the incompetence of current principles of form to account for the characteristic effects of good as contrasted with bad music. His argument proceeds by a very careful and complete examination of musical structure. Deviating slightly from the order which the writer himself adopts, I shall seek first of all to summarise his view of musical form as something which is susceptible of no rational explanation. After this I shall give the conclusions which he draws from this examination with respect to the part played by association in musical enjoyment.

The essential part of music to Mr. Gurney as to Helmholtz is melody. Harmony adds certain elements of form but these are of much less consequence than is commonly supposed. Melodious form consists of a fusion of two independent things, relations of time, or rhythm, and relations of pitch. The indispensableness of the former is ably maintained against Wagner. It is shown by examples that melody becomes formless when robbed of rhythm. Equally important is the fact that melody is a mode of movement through fixed steps or intervals of pitch. It is this peculiarity of musical structure which entitles it to the name "Ideal Motion," by which is meant a motion that yields a form. It is to be noted that each of these factors of musical form admits of great complexity and wide variety of arrangement, and so the combination of the two gives to any particular form

a special and unique character. Thus the rhythm of a melody is something thoroughly individual, being by no means determined by the mere time or bar-division. As Mr. Gurney ingeniously shows, a slight alteration of rhythm will completely alter the character of a familiar tune. And as with the special relations of rhythm, so with those of pitch. In this way an individual melody constitutes something distinctive, corresponding to an organic individual. And it is in intimate and indissoluble union with this individuality of musical structure that the beauty of the art is to be found. So far as any general principles could inform us, including those of rhythm and pitch relations themselves, there is nothing to differentiate good melody from bad.

This conclusion leads Mr. Gurney to consider the relations of reason and order to beauty in general in a chapter a part of which was originally published in MIND XVI. He takes Lessing's *Laokoon* as a signal instance of "the failure of logical analysis to penetrate the essence of beautiful work". He seems almost annoyed with the German critic for having referred beauty to "things which a person without the slightest artistic genius could and would think of as naturally as an artist," as for example the considerations which led Rubens to choose a particular moment in his representation of the resurrection of Lazarus. It seems probable, however, that our author is needlessly vexed with Lessing, who in writing the *Laokoon* was far enough from dreaming that he was penetrating the whole secret of plastic art, but confined himself to the much humbler task of determining the difference in the modes of treatment in painting and poetry so far as these depend on differences in their material. Going more generally into the alleged principles which underlie beauty, Mr. Gurney seeks to show that such attributes as symmetry and unity under variety are characteristics or rather "the definition" of all forms, and not specially of beautiful form. Neither a visible form nor a melody owes its "vital beauty" to any discoverable principles of connexion or order. Consequently the idea of intelligent arrangement emphasised by Helmholtz and others cannot in the least account for this beauty. The case of musical form illustrates this incompetence of reason most strikingly. For, as has been observed, there is a degree of cogency or "absolute rightness" in the successions of a worthy musical composition which does not seem to hold good in the case of visible form.

Just as no laws of form are adequate to account for the endless variety of musical beauty, so no principle of association will suffice. Thus the amount of resemblance between music and physical motion does not entitle us to say that the former suggests the latter. The ideal motion of music has no parallel in any kind of motion in space. Just as it suggests no definite objective facts or ideas of these, so it can suggest but little of the internal and more especially the emotional life. A great deal of music cannot be said to have a distinct emotional character at all, the utmost that can be said about it being that it is cheerful, energetic, and so on. In truth the expression of emotion

is always exceedingly limited, and when it is to be found must be regarded as an accidental accompaniment of music rather than an essential ingredient of it. In connexion with this thesis, Mr. Gurney gives us an exceedingly good analysis of the musical qualities of speech and of verse, on the ground of which he contends that the amount of parallelism between the two is very slight, and quite insufficient to maintain the theory of musical expression put forward by Mr. Herbert Spencer. To Mr. Gurney music could not have been evolved from primitive emotional speech in the way in which it is often supposed to have been. In its simplest germinal form it involved a distinct musical faculty. In a sense, however, Mr. Gurney allows a considerable range to the effects of association. He cordially accepts Mr. Darwin's theory that sequences of musical tones were first given forth by our pre-human ancestors at the wooing time. In this way, he contends, the proper pleasure of music, or the gratification of the musical faculty, would become enriched by reproductions of the various powerful feelings incident to the occasion. This then, says Mr. Gurney, explains the power of music on our feelings, its impressiveness as distinguished from its alleged expressiveness, as also the fact that it is only when the musical faculty is first satisfied by good music that this impressiveness appears. In other words, we are delighted with music only so far as beautiful, but when this beauty is present it retains all the advantage of having first revealed itself to the human ear in moments of extraordinary emotional exaltation.

No one who reads this account of the nature of music and of art in general will fail to be struck by the author's fine penetration. Mr. Gurney has a rare and exceedingly estimable feeling for the complexity of art-problems. In his opposition to vague theorising and in his exhibition of the element of individuality in all art-work he is, I think, performing a real service to art-theory. He combines a delicate sensibility to their effects with an acute analytic intelligence. His work is on the whole, I think, the best account of what musical art is and is not, to be found in our language, and possibly in any language. Yet while thus so masterly and exhaustive in certain respects it seems to me to err by way of extreme opposition to extant theories of the subject. Thus it is one thing to see the complexity of art-effects, to recognise how subtly they vary in different cases, and another thing to say that they are essentially irreducible to nameable laws and conditions. Mr. Gurney's hypothesis of a unique faculty is specially open to Prof. Bain's objection to all hypotheses of the sort, that they assume that analysis has reached its final stage. The psychologist is perfectly well aware that it is exactly in the region of æsthetic impression that his methods of analysis may be expected to be most baffled for a time through the intricate fusion of effects. I may be allowed to observe that I myself, whom Mr. Gurney in his friendly references to my essays on music appears to think tainted with the error that music is explained, have written an essay with the express intention of proving that there is in all art-impressions, and especially that of music, an indeterminable unanalysable factor. Yet while

recognising this characteristic difficulty it seems to me perfectly legitimate to affirm that the exquisite and inexplicable beauty of certain forms does rest on discoverable grounds even though these cannot yet be assigned. And this in part because we can already formulate certain general conditions of æsthetic effect. Mr. Gurney appears to me to draw a too hard and fast line between beautiful and unbeautiful music, though it must be added that his concessions go to show that it is quite impossible to say *where* exactly the line should be drawn. To the scientific psychologist, however, there is no such distinction. Beauty is nothing but a special accumulation of pleasurable elements and passes into the simply pleasant by insensible transitions. It is, as Mr. Cyples has well said, a massing of grateful impressions. To use the happy expression of Fechner *(Vorschule der Æsthetik)*, every agreeable element in a work of art is in the direction *(im Sinne)* of beauty. The element of order in one of those vulgar and wearisome tunes which Mr. Gurney rightly despises after all counts for something, as might at once be seen by contrasting it with an unordered sequence of notes. And further, and this is the main point, it may I think be urged against Mr. Gurney's view that the conditions of the distinguishing beauty of excellent art are to some extent already discoverable. In no case of an admittedly beautiful melody are we wholly helpless in trying to define these conditions. Something may be set down to discoverable elements of form, as that very freedom which Mr. Gurney appears to look on as something inexplicable. The charm of a good deal of the best music is due, and is consciously referred to, some striking departure from familiar directions, which however is at the same time not otherwise disagreeable. It is curious, by the by, that in an art which owes so much to a perception of individual freshness, Mr. Gurney nowhere assigns any æsthetic value to the humble quality of novelty. A cultivated musical sense is a demand for a certain newness of combination within given limits fixed broadly by organic sensibility, less broadly by the intellectual need of an ordered variety of worthy contents, and still less broadly by previous musical experience and tradition. Any composition which satisfies these conditions will appear at least interesting, and its beauty will be, generally speaking, guaranteed when the degree of agreeable divergence from the common run of compositions reaches a certain height, provided always that it is in itself a worthy and sufficiently complex result. For in such a case the sense of freshness at a first hearing will survive as a recognition of individual distinctiveness.

'Speaking generally,' I said; by which I meant so far as the beauty is attributable to a mere happy arrangement of agreeable elements. But I differ fundamentally from Mr. Gurney in thinking that a good deal of the distinctive beauty, even of non-vocal music, is due to numberless vague associations more especially with vocal utterance. This seems to me to be borne out by the fact that we irresistibly strive to describe the effect of good music as one of emotional declaration. However hopeless the task may be, this does not prove that there are

not affinities to be expressed, but only that they are too numerous and divergent and too subtle to be consciously grasped and defined. Mr. Gurney's argument against Mr. Spencer is, I think, conclusive up to a certain point. Undoubtedly the resemblances between music as we now know it and speech are not close: undoubtedly different kinds of emotional speech sometimes have the same musical qualities. Nevertheless this does not disprove the contention that, in a general way, music represents vocal utterance (a fact indeed which Mr. Gurney concedes); or that a particular melody tends to call up certain groups of feelings rather than others. The very fact mentioned by Mr. Gurney that speech is the one natural species of formed-sound, or sound grouping itself in successive masses, would lead one to expect that music will in numberless ways carry back the auditory imagination to this. And the facts emphasised by Mr. Spencer seem to me to show conclusively in how many ways music must, imperfectly no doubt, reinstate the effects of vocal utterance. Is it not surely more philosophic to say that the more recent yet far extending ages of human converse with their vast accumulation of emotional experience must have had at least as much effect on music as the very remote and at the same time limited experiences of love-making among our pre-human Jubals? Mr. Gurney may say that the link of association is distinct in the two cases. But one may still ask whether the pleasure given to some anthropoid ape by the exercise of his embryonic musical faculty can easily be supposed to resemble either in quantity or quality the pleasure given to a fully-developed modern ear so closely as to account for this wonderfully far-reaching transmission of emotional effect. And this *a priori* historical mode of reasoning is, I think, borne out by present average individual experience, in which musical beauty is often inextricably bound up with obscure suggestions of feeling, as for example in some of the passages from Beethoven quoted by Mr. Gurney, and in which bare form ceases to be generally interesting when, as in the more learned sorts of polyphony, it departs in its severe and highly artificial regularity too widely from vocal utterance to yield any such suggestions.

I think, then, that we are in a position to divine vaguely and imperfectly where the characteristic beauty of different compositions lies. Mr. Gurney's ably developed argument is really telling only against the mere formalist who holds that all beauty is resolvable into universal principles of form and against the mere idealist who asserts that suggested emotion exhausts the mystery of musical charm. As against one who thinks that musical beauty is too complex a product to be explained by any one principle and depends on a subtle blending of many distinct influences, his argument looks very much like a fallacy of composition:—The charm of music is due neither to this, that, nor the other cause: therefore it is not due to all taken together.

If I am right Mr. Gurney's hypothesis of a unique faculty is an unnecessary *deus ex machina;* as he rightly, I think, recognises the principle of association to be as often resorted to. Apart from this I do not see that Mr. Gurney's idea derives much support from the conten-

tion that the ideal motion of music is something *sui generis*, for surely there is some analogy between the form-yielding motion of music and the form-yielding motion of an object moving in space. Nor do I think that the idea of a unique faculty is greatly aided by the supposition of a special cogency in musical sequence, which I suspect is very much a matter of custom general or special (where the melody has become familiar) and depends on the fact, too lightly touched on by Mr. Gurney, that melody is essentially a response to a continually renewed attitude of expectant attention. And then there seems to me to be the positive objection to this hypothesis that as Mr. Gurney more than once frankly and generously admits, there is no perfect consensus among individuals and peoples at the same level of development as to what constitutes the proper object of approval of the supposed musical faculty.

I have accented the points of disagreement between Mr. Gurney and myself because his work is avowedly a friendly challenge to current theories of music. Yet I would not close this notice without testifying to the delight and instruction which the reading of his work has afforded me. It is a mine of valuable thought for every lover of the art.

JAMES SULLY.

Contributions to the History of the Development of the Human Race. Lectures and Dissertations by LAZARUS GEIGER. Translated by David Asher, Ph.D. London: Trübner, 1880. Pp. 156.

The six essays in this little volume consist of fugitive pieces in Geiger's lighter manner, translated for the most part into singularly good and idiomatic English by another German writer, Dr. Asher. They are, of course, marked by that bold and original type of thought which characterises all Geiger's work: yet it is perhaps to be regretted that the brilliant philologist should have been first introduced to the English public by means of these comparatively slight and shadowy lectures. They do not fairly represent the soundest part of his thinking, and they are sometimes a little hasty or hazardous in their speculation. Geiger was one of those fertile originators who, like Oken, strike out many new and brilliant ideas, only a few of which will ultimately stand the test of rigorous investigation. Such men are invaluable in their way, but they are best illustrated by their best work, where their knowledge of their subject-matter is most complete and so saves them to some extent from the danger of too rapid hypotheses. These essays, however, are not concerned for the most part with those philological questions in which Geiger was so thoroughly at home: they deal rather with side-issues of the connexion between philology and the general history of human development; and here the author's comparatively exclusive philological standpoint often gives a doubtfully correct bias to his course of thought. Moreover, the late rapid progress of opinion in England on all questions affecting the origin and early history of mankind has left Geiger's once

bold speculations rather behind; so that we must constantly bear in mind while reading his lectures that most of them were delivered some ten or twelve years since, when Darwinism was still young, and when prehistoric archæology was not yet an open book in Germany as it has long been in England. All these considerations somewhat diminish the value of the work at the present point of psychological evolution.

Only three out of the six essays come directly within the scope of this journal. In the first, on "Language and its Importance in the History of the Development of the Human Race," Geiger puts forward a little indefinitely a truth which has been more definitely pointed out here by the late Professor Clifford, namely, that our whole conception of the universe has been largely moulded for us beforehand by the language which we have learned as children. Besides the blank forms of thought handed down to us directly by heredity, we indirectly inherit a developed set of conceptions, some of them highly metaphysical, embodied in the words and idioms which we pick up half unconsciously in early childhood. Feelings originally dim and undefined become definite by being fixed in language. At the present day, he says, we feel vaguely that there is a certain German type of face differing in certain particulars from the French type of face: but wherein exactly the difference consists we should find it hard to formulate. Now if we suppose a time when there was no distinct word for *black* or *white*, then the men of that time would have an equally vague idea of the difference between a negro and a European. If, again, there was a time when man had no separate word for *lamb*, *dog*, or *cat*, we should find, he asserts, that the perception of differences between these species would be much less distinct than it is at present. It may be doubted, however, whether Geiger has not here pushed the argument too far: for, though we may admit that language has proved invaluable in fixing and giving definiteness to our conceptions, we may object on the other hand that we often have very definite pictures of a species new to us, before we acquire any special name for it. Of course, we are aided by the fact that we can give a name to each of its properties—its shape, its colour, its parts, its relations to known species: still, allowing for all this, we cannot hold it proven that the mere absence of a name could have made man in any stage underestimate the importance of so marked a distinction of sensation as that of white and black. Geiger goes on to contend that in the lower animals, and especially the mammalia, the sense of sight plays but a subordinate part, that visible objects interest them but little, and that smell takes the leading place in their consciousness. But in the quadrumana, he says, the visible world assumes more importance: and in man, it rises to the highest rank. The lower races of humanity still depend largely upon scent: the higher races depend almost wholly upon sight. And language, Geiger thinks he has discovered, "originally and essentially expressed only visible activities". Thus we see both why man alone has developed a language, and why sight has obtained more and more the hegemony in the hierarchy of his senses. This *aperçu* is ingenious, even luminous—for Geiger is above all a sug-

gestive thinker: but its facts as given are too few and doubtful to be quite conclusive. Furthermore, a fundamental error seems to lurk in the attempt to illustrate the theory from the original roots of the Aryan language. This is an error which runs all through Geiger's thinking—inevitable, perhaps, in Germany at least, at the time he wrote; but none the less fatally vitiating all his conclusions. For he always treats the original Aryan language as though it were a primitive tongue, a representative of the first stage in human speech-formation. But we now know that man has been essentially man, and therefore in all probability has possessed the faculty of language, for at least 200,000 years, and probably for far more: and as a consequence that it is ridiculous to look upon any existing tongue as primitive. And we know that it is above all ridiculous so to look upon the Aryan tongue, a tongue apparently evolved only some seven or eight thousand years since, and spoken by a highly advanced race which possessed a knowledge of metals, agriculture, cereals, ploughs, ships, and wheeled carriages—in short, all the prime elements which go to make up what we call civilisation. When we have got *foot* down to *pad*, we must remember that *pad* itself goes back, in all probability, several hundred thousand years, through a vast series of earlier and now forgotten forms.

The second lecture, on "The Origin of Tools," shows this peculiarity still more strikingly, though no doubt in a more allowable form. Geiger argues that all words for tools are directly traceable to earlier words for bodily actions; and therefore there must have been a time when man possessed no tools at all. To the anthropologist and archæologist this conclusion itself is now almost a truism: yet as man had many tools before the last glacial epoch, it is doubtful whether the evidence of the Aryan language can do much towards establishing its validity. That "man had language before he had tools" is possible, though not probable: but we can hardly agree with Geiger that it "admits of complete proof from language". Such expressions as the following show a wonderful narrowing down of mental vision to the last few millennia: "The art of weaving or matting is of primæval date; it plays a part in the earliest religious myths". On the whole, one can hardly believe that the Aryan language has preserved for us traces of the earlier state of things before the invention of tools: for even the first neolithic tongues must have been full of words for knives, needles, thread, scrapers, awls, and axes, all of which had been known in palæolithic times. And it is incredible that the Latin verb *sculpo* "at first implied only scratching with the nails," when we reflect that even the cave-men carved admirable figures of animals in bone or ivory. The vague observation that "the figure of man seems to be a decided indication that the tree must have been his original habitation" certainly sounds strangely crude to a generation familiarised with the exact investigations of Darwin, Huxley, and Häckel.

The third lecture, on "The Development of Colour-Sense," the present writer has elsewhere considered at length, and he has no further remarks to add upon it here. In this case, again, Geiger seems to have been misled by his too exclusive consideration of linguistic data.

The remaining essays deal with subjects less cognate to psychology or philosophy. One on "The Origin of Writing," traces the alphabet to a source in picture-writing. Another, on "The Discovery of Fire," derives it from the sacred use of a wheel, representing the sun, and so originating the fire-drill: but as the proofs of this development are all taken from the Aryan mythology, while fire was familiar to the palæolithic men, and apparently to the miocene progenitors of man, neither of whom are known to have been sun-worshippers, it can hardly be accepted without cavil by the modern anthropologist. The last essay, on "The Primitive Home of the Indo-Europeans," gives ingenious reasons for believing that the Aryan race originated in Germany, not in Central Asia. On the whole, unwilling as one may be to pass so hard a judgment, these papers can scarcely be regarded now otherwise than as the result of much cleverness and originality, decidedly *manqué*. The lights are brilliant: but they are false lights after all. Yet the book is well worth reading, were it but for its ingenuity and suggestiveness.

GRANT ALLEN.

L'Éducation dès le Berceau. Essai de pédagogie expérimentale. Par BERNARD PEREZ. Paris: Germer Baillière, 1880. Pp. viii. and 302.

M. Perez has now followed up his interesting observations on the growth and habits of young children (*Les trois premières Années de l'Enfant*, MIND XII. 546), by the practical application of the knowledge thus gained to the doctrine of education. In his own words, "comme j'ai esquissé une sorte de psychologie première, j'ai voulu ébaucher aussi, selon mes humbles forces, une pédagogie première". With the best authorities on the subject, he regards moral education—in other words, the formation and maintenance of a healthy mind—as of no less importance from the earliest infancy, and no less fit to be carefully studied by parents and teachers, than the maintenance of bodily health. He does not undervalue direct intellectual instruction, that part of education which too often does duty for the whole, and usurps its name, being itself weakened by such isolation: but he deals mostly with an age not yet ripe for lessons. To English readers it will be satisfactory to find that full justice is done to our countrymen. Locke, almost the father of the science of education, whose work at this day astonishes us by its good sense, and in many parts is as fresh and as much to the purpose as when it was written, is frequently quoted with honour by M. Perez. Nor is acknowledgment wanting for our living writers, Mr. Bain and Mr. Herbert Spencer. This book, like its forerunner, is clearly and pleasantly written, and is by no means addressed exclusively to specialists in psychology or education.

M. Perez begins with the education of the senses (for he rightly holds that nothing in the infant's training is too slight to have a

moral tendency and significance); then he proceeds to the intellectual and social emotions; and he concludes with a chapter on the formation of moral habits in general. A critic who finds very little to criticise is perhaps (though this may seem paradoxical) not the best person to do justice to a book; and such, I must confess my case to be as touching this one. The advice given by M. Perez on the conduct of education is both in principle and details practical, sensible, and liberal. The governing general idea of his book—an idea which is now among competent persons almost beyond the reach of discussion—is that the business of the educator is not to enforce mechanical rules and habits from without, but to develop the nascent powers in the right direction from within. Children should be rather led and encouraged to teach themselves than directly taught. So in matters of conduct they should not be dosed with formal precepts, but brought by insensible degrees to collect a sort of moral code for themselves out of the example and guidance afforded by particular occasions. What M. Perez counsels as to children's games may be applied to almost the whole of their life: "Ni géne, ni excès, une liberté surveillée". And most parents (in France, perhaps, even more than in England) might safely be advised to err on the side of too little rather than of too much control.

In the first part of the book, which deals with the training of the senses, there is little controvertible matter: the importance of simple and healthy habits is naturally the main point. On the question whether the pleasures of taste, and corresponding privations, are convenient to be used for purposes of reward and punishment, M. Perez holds with Mr. Bain and against Locke that they are; nature having given us in this a powerful, useful, and (within just limits) harmless instrument of discipline, and the reasons urged against it wanting substance. I think, however, and not wholly without warrant of experience, that where the principles advocated by M. Perez are otherwise applied with reasonable diligence to a reasonably favourable subject, the question of positive reward and punishment will be found to remain very much in the background. There is indeed one point of general discipline, not discussed by M. Perez, which may deserve to be considered: I mean whether at a certain age it may not be fit, in view of the child's eventual relations to other masters and superiors, to form betimes the habit not merely of obedience, but of prompt and absolute obedience; if so, what age is ripe for this, and how the end may be best attained. I see no reason why we should not be able to cultivate a perfect but intelligent obedience as much superior to that which is produced by mere compulsion as the trained officer's is to the raw conscript's. It may here be noted that M. Perez justly holds, against some well-meaning theorists, that children are not to be constantly reasoned with. It is well to explain the reasons for a command afterwards, if they can be understood; but law itself is imperative, not discursive.

In an interesting chapter on "le sens naturaliste" (meaning the infant's notions of the world in general and the scale of animate and

inanimate nature) M. Perez gives wholesome warnings against troubling young children with metaphors and hypotheses they cannot understand. As he does me the honour to quote my own opinion, published some time ago in MIND, in support of Mr. Spencer's denial that children ascribe life to inanimate things, I may add that this opinion was forced on me by observation quite against my previous belief. The moral drawn from this is that, children not being animists, we shall do no good by trying prematurely to make them supernaturalists.

M. Perez has much to say on children's games: with Locke he would have playthings to be simple, and disapproves the costly mechanical toys of which there are now far too many. Playing at soldiers and all military toys are especially rebuked by him, war being too serious a thing to be thus trifled with. In the matter of dolls he enters on what seems almost a forlorn hope; for he finds such grave objection to them that he would either do away with them or, if that cannot be, keep them down as much as possible. But, after all, the objection seems to apply principally to overmuch pomp and luxury in the fashion and apparel of dolls, as to which no sensible person will differ from M. Perez. A waxen idol of nearly life-size, dressed with no less cost than the living figure would be, is certainly not a desirable plaything. But this the children find out for themselves. They care for a ragged doll as much as a new one; indeed they go on quite happily playing with the old ones until they are confiscated by superior authority as too disreputable. A more general and substantial objection is that the doll engrosses its possessor in a perpetual fiction amounting in extreme cases to illusion. M. Perez tells a story of a boy of three years old who for some time lived in a kind of doll-monomania. Dolls, no doubt, have their dangers; and so have plays and novels for persons of riper years. But I do not see that we are more justified in condemning dolls indiscriminately for children of five years old, than in condemning plays and novels indiscriminately for young men and women.

A point on which M. Perez will meet with no disagreement, in England at any rate, is the use of cold water and fresh air, to which he gives some pages. In the matter of æsthetic education he warns us against forcing children's taste. The æsthetic faculty, such as adults have it, is of slow growth; and it can only make children affected and insincere to encourage them to fancy they have it. But M. Perez would not neglect the æsthetic environment. As to music, for instance, he would not let a child be habitually sung to by people who sing out of tune. The songs should be lively and simple, such as the child can honestly enjoy, and sentimental excitement should be avoided. As to fairy tales, M. Perez is even harder on them than on dolls, and I do not quite follow his argument, which, considering its novelty, is somewhat meagre. He seems to think that when children find out, as they must, that fairy tales are not true, there is apt to be a crisis of disappointment and premature scepticism. Both the fact and the conclusion seem to me disputable.

So far as I have observed, I think an intelligent child enjoys a fairy tale just as we enjoy a romance, that is, well knowing it to be fiction. And I can see no possible harm in children becoming aware at an early age that not all stories which are told are true. "Ceux qui veulent que leurs enfants croient à la Bible et au catéchisme ne doivent pas commencer par les avertir que les aventures du Petit-Poucet et du Chaperon-Rouge ne sont pas articles de foi." This may be a good reason *ad hominem* for people who want their children to believe blindly in creeds and catechisms. But it is odd that M. Perez should use it. For my part, I believe most firmly—though not historically—in Grimm's *Tales*, and do not admit any one to be competent on this question who cannot answer off-hand why and since when the sole has had a wry mouth. But peradventure Grimm is not known in French nurseries, and French children have not even the chance of hearing how the fish of the North Sea chose a king, or about the fisherman's wife who would be Pope, or the animals who set out to be magicians at Bremen. If so, great is their loss; though one may doubt if modern French would be adequate for the rendering of the *Märchen*. Seriously, M. Perez' theories both on fairy tales and on dolls appear to be manifestly contrary to the general experience of mankind. *Securus judicat orbis terrarum.* Dolls and fairy tales pleased our ancestors thousands of years ago, have pleased the children of all nations in all historical times, and will, I venture to think, continue to please our posterity for at least as long a time as we need think about.

It is a rather favourite supposition of modern writers that the individual child goes through the mental experiences of the race: it is used, for example, to explain a dramatic and personifying instinct which is said to be observed in children. M. Perez thinks all this too doubtful to have any practical application. "Je croirais plutôt," he says, "que le savant transporte à la vie du jeune enfant les faits appris par lui dans l'histoire des anciennes sociétés." And, whatever the historical significance of the impulse to mimicry may be, he is of opinion that it ought by no means to be allowed to develop itself without bounds, and that adults ought even to be specially careful before children to restrain any peculiar tricks of language or action that would be likely to provoke imitation.

Among other points well handled by M. Perez are the danger of repressing children's confidence not only by actual harshness, but by a cold or constrained manner (adults, as he truly observes, can be quite as shy with children as children with adults); the growth and guidance of the sense of right and wrong; and the cultivation of will and decision.

In conclusion, I may mention that many amusing anecdotes of children are to be found scattered through M. Perez' book. He has given us in this and his former works a kind of literature of which psychologists and educators ought to have much more, and his works are good examples of their kind.

F. Pollock.

Zur Geschichte und Begründung des Pessimismus. Von E. von Hartmann. Berlin: Duncker, 1880. Pp. xvi. 141.

This work, a bare mention of which was made in Mind XXI., is intended to be a sort of justification, logical, practical, and historical, of the author's system of pessimism. Although one-half of it is devoted to the further elucidation of the writer's views, and to the meeting of objections urged by more than one critic against these, the reader of his previous works, including the large treatise on the Moral Consciousness, will find little, if anything, that is materially new. This expository half of the book consists of three chapters headed, "Can Pessimism be scientifically established?" "Is Pessimism injurious?" and "The Significance of Suffering" (from the natural, rationalist, theological, and other points of view). The work will probably serve to recommend the author's doctrine to the popular mind by its characteristic clearness of statement and presentation of pessimism in its least repellent aspect.

To the philosophic student the first half of the volume which deals with Kant's position in relation to pessimism is by far the more important. This section headed "Kant as the father of Pessimism" is a very seriously executed study of the development of the views of the Critical Philosopher on the question of the worth of life. Herr von Hartmann has done a real service in here bringing together Kant's different utterances on the subject with the view of obtaining, in spite of its gradual development and modifications, a consistent doctrine; though whether this presentment of Kant's views is in all respects just and adequate may perhaps be doubted.

Our author's view of Kant's position is briefly this. He is as much the source of Schopenhauer's "eudæmonistic pessimism," as he is of the "evolutionistic optimism" of Fichte, Schelling, and Hegel. "Schopenhauer could quite easily have taken all the contours of the richly coloured picture of his pessimism out of Kant's writings, if he had not in self-reliance shapen them out of his own pessimism of feeling (*Stimmungs-pessimismus*)." This assertion is certainly largely justified by the numerous quotations from Kant's writings which follow. The philosopher's repeated and often eloquent utterances on the shortcomings, disappointments, and positive miseries of human existence have a distinctly ethical aim; namely, the demonstration of the folly of making pleasure the end, whether as individual or as social happiness. To use Herr von Hartmann's expression, pessimism was with Kant an ethical postulate. Yet, according to our author, this pessimism of Kant was not, as in Schopenhauer's case, the outcome of individual temperament, but was the result of scientific reflection. His "theoretic" establishment of pessimism (as distinguished from the "practical" establishment just referred to) consists first of all of a "moral pessimism of indignation" (*Entrüstungs-pessimismus*), that is to say, an assertion of the inherent moral depravity of mankind, and of a *Eudaemonologie* or hedonistic pessimism, which affirms on psychological and other grounds the excess of pain over pleasure and

the necessary increase of this excess as the race advances. This pessimistic view of progress as judged by a hedonic standard bears traces of the influence of Rousseau's writings. Yet Kant found a way out of this gloomy doctrine of history, so opposed to the spirit of his age, by an evolutional optimism, namely, the idea that the distinctively human moral dispositions cannot be freely evolved in the individual but only in the race, and that consequently, by an ethical necessity, progress must tend to the moral perfection of man.

In his account of this part of Kant's doctrine in relation to the later systems of pessimism the writer confines himself to exposition. When, however, he passes to the consideration of Kant's "transcendent optimism," namely, the idea that the end of happiness and of moral self-realisation are to be harmonised in another, transcendent, intelligible world (by help of which the philosopher seeks to rise out of his eudæmonistic pessimism, as he has risen out of his moral pessimism of indignation by help of his evolutional optimism), Herr von Hartmann has some effective arguments to urge against Kant's procedure. A certain ready skill is certainly shown in this criticism of Kant's position as inconsistent with his own ideas, a skill for which the reader of Herr von Hartmann's works will be fully prepared.

JAMES SULLY.

A History of Greek Philosophy from the Earliest Period to the time of Socrates. Translated from the German of Dr. E. ZELLER by S. F. Alleyne. 2 vols. London: Longmans, 1881. Pp. xiv., 642, 541.

This translation of Part I. of Professor Zeller's *Philosophie der Griechen*, is a very valuable addition to our English philosophical library. Miss Alleyne has brought to her task the same skill that she displayed five years ago in translating the section on Plato, and she is to be congratulated on the smoothness and accuracy of her rendering. The merits of Professor Zeller's work have been so long recognised that it would be out of place to dilate upon them now. The author's exhaustive treatment and ripe judgment make it in many respects the standard book on the subject. To the German faculty for thorough research, Prof. Zeller adds the rarer quality of never losing himself in the details of his own erudition. He is sympathetic without ceasing to be critical, being neither soured in his estimate of the philosophers by a conviction of the futility of their speculations, nor warped in his views of history by a dogmatic adherence to a particular system. He has burst the bonds of Hegelian formulas, so far as they tend to cramp the historical investigator; and, while holding as before to a rational connexion and progress in philosophical systems and in history, he is content to await the demonstration of this from facts, even though the demonstration have not all the "rigour and vigour" which the first followers of Hegel (more than Hegel himself) demanded. In this respect Dr. Zeller has grown mellower with increase of years, and we

feel under his guidance that he has no points of his own to make, but aims only at attaining the fullest view of the historical phenomenon.

The General Introduction to Greek Philosophy occupies the first 180 pp. of the translation and treats of the origin, the character, and the general course of the development of Greek thought with much wideness of view and fulness of culture. Philosophy is exhibited in its connexion with the inner characteristics of Greek life and culture. Professor Zeller repudiates the theory of the Oriental origin of Greek philosophy, and shows that this belief was the product of the universal fusion of races, creeds and philosophies that began in Alexandria. If we except the totally untrustworthy statements of Neo-Pythagorean and Neo-Platonic writers of that period the basis of testimony on which the theory rests is extremely narrow. "All develops itself quite naturally from the conditions of Greek national life." The legend of the Seven Wise Men and the ethical saws that meet us in the gnomic and lyric poets of that time mark the transition from the Homeric and Hesiodic stage of reflection to the more conscious thought of Thales. It may be worth while to refer to Prof. Zeller's classification of the Pre-Socratic schools, as it affords on the whole the best bird's-eye view of these two hundred years of speculation. All, he insists, are nature-philosophies in spite of the idealistic turn occasionally given to the language. The three oldest schools—the Ionian, the Pythagorean, and the Eleatic—he groups together more closely, as searching simply for the ground or substance of things, as "demanding what things are in their proper essence, and of what they consist. The problem of the explanation of becoming and passing away, of the movement and multiplicity of phenomena, is not as yet distinctly grasped." This problem was brought forward by Heraclitus, who thus forms in a way the centre of Pre-Socratic thought. Prof. Zeller neither constructs Heraclitus out of the Hegelian logic, like Lassalle, nor misses his real significance, like Ueberweg, by ignoring, with an equal spice of party zeal, the gulf which separates him from the older Ionians. Zeller's discussion of the position and teaching of Heraclitus is full and very fair and moderate in statement. The theories of Empedocles, the Atomists, and Anaxagoras may be regarded as attempts to combine the assertion of an unchanging ground or essence with the patent fact that all is in motion and change. We may look at their principles as a rude reconciliation of Parmenides and Heraclitus. In the case of all these the unchanging is matter; the principle of motion is with Empedocles the mythical forces of love and hate, with the Atomists mechanical action in empty space, and with Anaxagoras the spiritual or semi-spiritual principle of νοῦς. The introduction of this new principle by Anaxagoras led to the Sophistic *Aufklärung* and the teaching of Socrates.

The publishers promise a translation of Dr. Zeller's section on Aristotle at an early date. As the *Socrates*, the *Plato*, and the *Stoics, Epicureans, and Sceptics* have been before the English public for some time, the student will then possess a complete history of Greek Philosophy down to the end of the second century B.C. It

would seem from the advertisement sheet that the publishers intend the translation to close here. This is to be regretted on many grounds. The history of Greek philosophy in the centuries immediately before and after the beginning of our era is less known in this country, but it is of quite peculiar interest from its connexion with Christian thought. We would fain hope, therefore, that the publishers may see cause to reconsider their resolve. Prof. Zeller is at present engaged upon a new edition of his Part III., the first section of which includes more than the English *Stoics, &c.* When the revision is completed, it is perhaps not too much to hope that the whole remnant may be included in the English translation.

ANDREW SETH.

VII.—NEW BOOKS.

[*These Notes do not exclude, when they are not intentionally preliminary to, Critical Notices later on.*]

Locke. By THOMAS FOWLER, Professor of Logic in the University of Oxford. ("English Men of Letters.") London: Macmillan, 1880. Pp. 200.

Treating Locke as a "Man of Letters," as one, moreover, who was not a mere student but was all his life in contact with public affairs, Prof. Fowler has given the greater part of his volume to the biographical sketch. The narrative is well told, and forms a very readable account of the circumstances of Locke's life. Unfortunately there is less to be said for the account and estimate of his philosophical work; the skill which guided Prof. Fowler through the life seems to have forsaken him here, and while he is evidently afraid of making his subject technical he fails to make it interesting. The worst fault is the want of breadth and firmness of treatment noticeable throughout; and as the limits of the book put detailed discussions out of the question, it is to be feared that the uninstructed reader will hardly carry away a very definite idea of Locke's distinctive achievements and merits. Mr. Fowler's tenderness in obtruding philosophy on his readers is carried to an excess, for if philosophers like Locke and Hume are included among "Men of Letters," the inclusion must have been due to their philosophical eminence and the influence they have exerted on thought. Sometimes, however, one is tempted to think that the author is not sufficiently in earnest about philosophy himself. It is not taking the *Essay* seriously enough to speak of "the great variety of interesting topics which it starts" (p. 149), or to recommend the Fourth Book in twelve lines as treating "under the head of Knowledge" of "a great variety of interesting topics" (p. 143). Prof. Fowler seems, besides, entirely to ignore the importance of Book IV., for he says that "had Locke's *Essay* ended with the Second

Book we should hardly have detected in it any incompleteness". Locke's design, however, as he explains it himself, was "to inquire into the original, certainty, and extent of human knowledge, together with the grounds and degrees of belief, opinion, and assent" (Book I. ch. i. section 2); and these are, almost in so many words, the headings of chapters of the Fourth Book. The *Essay* is more than empirical psychology; it is a theory of knowledge; and the whole would be incomplete without the discussions in Bk. IV. as to the "extent" and "reality" of our knowledge, "universal" and "trifling" propositions, our knowledge of existence, and the spheres of probability, reason, and faith, to which the theory of the origin of our ideas in Bk. II. is in fact only preliminary.

[A. S.]

Adam Smith. By J. A. Farrer, author of *Primitive Manners and Customs*, &c. ("English Philosophers.") London: Sampson Low, 1881. Pp. 203.

Sir William Hamilton. By W. H. S. Monck, M.A., Professor of Moral Philosophy in the University of Dublin. ("English Philosophers.") London: Sampson Low, 1881. Pp. 192.

As if Messrs. Blackwood's set of "Philosophical Classics" were not enough, there is published simultaneously by Messrs. Sampson Low & Co. a series of "English Philosophers". The Editor's Preface, given in the second and later issued of the two volumes here placed together, draws the lines on which the present series is to be conducted: —"We seek to lay before the reader what each English Philosopher thought and wrote about, the problems with which he dealt, not what we may think he ought to have thought or written. Criticism will be suggested rather than indulged in, and these volumes will be expositions rather than reviews. . . . In the summary will be found a general survey of the main criticisms that have been passed upon the Philosopher who forms the subject of the work." It may be doubted whether it is possible to carry out such a programme. Of course all are agreed that an undistorted statement of the philosopher's views is the *sine qua non* of an exposition; but an organic account of the philosophic systems of the past cannot be given except by one who estimates them from a point of vantage. We ask from him only that his standing-ground be not so narrow as to cramp his powers of appreciation and his historic sense, as he assigns to each particular philosopher his share in the collective work of philosophy. The function of criticism may be denied, but it will assert itself in every case. It is implied even in the process of bringing out into relief the distinctive and really important doctrines of the philosopher who is being treated. A perfectly uncoloured account of a philosophy would be nothing better than a mere lifeless abstract of its author's works. And a public which has little enough taste for the philosophers in the original, where thought is wedded to illustration, and the transition from point to point is made with the needed fulness of argument, will

hardly be won by summaries which want both the freshness and the fulness.

Some of these remarks have been suggested by Mr. Farrer's *Adam Smith*, with which the present series opens. The book itself does not call for much notice: but it is to be hoped that the other contributors will take a higher view of their task than Mr. Farrer has done. Adam Smith is treated in the baldest and narrowest sense as the author of the *Theory of Moral Sentiments*; and what Mr. Farrer has given us is substantially a condensed reprint of that book, stripped of all that makes it agreeable reading in its original form. The divisions of the original are followed with the exception of a few transpositions which commend themselves to Mr. Farrer's sense of order. Prefixed is a short biography of Adam Smith, and appended is some account of the objections raised by Jouffroy and Dr. Thomas Brown to the founding of morality on sympathy. These, it is said, "will best serve to illustrate what have been considered the weak points in the general theory". This method of criticism at second hand is eminently unsatisfactory. We do not wish to know what Jouffroy or Dr. Thomas Brown thought about Adam Smith; we want some one standing in the current of present-day thought who will speak with authority and lay his hand both on the weak and the strong places of the theories he examines.

Professor Monck's *Hamilton* contrasts very favourably with the *Adam Smith*. A certain dryness of treatment is the only fault that can be found with it. The information is very closely packed, and it is probable that the book will be of more value to those who already know Hamilton's works than to such as are approaching him for the first time. The former class will welcome it as a studiously, even laboriously, fair account of the Hamiltonian doctrines. Views which were elaborated by Hamilton at different times and in different connexions, and which, if not irreconcilable, were at least left unreconciled by their author, are brought together by Professor Monck and shaped into such consistency as the materials allow of. Professor Monck is not bound in any scholastic sense to the Hamiltonian doctrines, but his general sympathy with the thought he is expounding enables him to construct Hamilton, so to speak, from the inside. He has conscientiously endeavoured to put the best sense on his author's words, and his sympathy often leads him to a point of view from which seeming discrepancies may be reconciled. The echoes of the controversy caused by Mill's *Examination* linger subtly in the book, affecting a statement here and there; but Professor Monck's account of Hamilton is a more sober and accurate estimate than it was possible to obtain in the heat of the controversy. The *disjecta membra* of Sir W. Hamilton stood much in need of such a service as is here rendered them; and quite independently of the ultimate value of Hamilton's views and speculations, Professor Monck's book is a valuable contribution to the study of the subject. Its value lies not so much in anything new that it offers as in its summation of results; it is clear and compact, and likely to be of permanent use to the student. [A. S.]

Butler. By the Rev. W. Lucas Collins, M.A., Honorary Canon of Peterborough. ("Philosophical Classics for English Readers.") Edinburgh and London: Blackwood, 1881. Pp. 177.

Mr. Collins's book (which contains a fine portrait of Butler, remarkable for the softness of its finish) falls into two nearly equal parts, the first dealing with the *Sermons* and Butler's ethical teaching, the second with the *Analogy* and its bearing on the religious controversies of Butler's age. The second part is much more successful than the first, though in both there is wanting an organic view of the whole, and, as a consequence, any general criticism of Butler's principles, method and results. An account of the *Sermons*, in order, by the help of quotations, with reference to Aristotle on particular points, cannot be said to be the best method of approaching Butler's ethical theory. It implies the want of a stand-point from which to judge Butler's place and work; and this is not supplied in the short and rather uncritical chapters on "Modern Ethical Theories" and "Comparative Views of Conscience." These show the same tendency of treatment; a succession of summaries giving the views of different unconnected individuals is substituted for a sketch of the general movement of thought in its different streams. What was indispensable was some estimate either of the ultimate value of Butler's principle of Conscience or of the relation of his theory to the present state of speculation on the subject; and the references in chap. iv. do not in any vital way fulfil this requirement. The complete change that has come over ethical speculation as a consequence of the Critical Philosophy and the general recognition of the principle of evolution, receives no adequate emphasis. A short comparison with Paley is the main attempt to connect Butler with later ethical thought, but there is no attempt at an estimate of principles, beyond the judicially balanced *dictum* that "Paley's moral rule may claim at least to be more clearly and tersely expressed than Butler's". This tantalising deliverance is of a piece with the statement about the "Intuitive" and "Inductive" schools, *viz.*, that "both theories have their vulnerable points which have been vigorously attacked by their opponents". As already mentioned, the author moves more freely in his account of the *Analogy*. [A. S.]

Berkeley. By A. Campbell Fraser, LL.D., Professor of Logic and Metaphysics in the University of Edinburgh. ("Philosophical Classics for English Readers.") Edinburgh and London: Blackwood, 1881. Pp. 234.

This newly issued volume in the series of Philosophical Classics for English Readers, edited by Professor Knight, not only is admirably conceived and executed for the more immediate purposes of the series, but has a permanent philosophical value. It is the first attempt, as Professor Fraser claims, to present "Berkeley's philosophic thought in its organic unity," and more especially "in connexion with his personal history". Nobody, of course, could perform this task with the easy mastery of Berkeley's Editor, and he is to be congratulated on the

opportunity which the present series has given him of returning once more to the familiar ground. Since Prof. Fraser published his larger Life in 1871, new material of some importance has turned up in about eighty letters from Berkeley to Sir John Percival, afterwards Earl of Egmont, within the period from 1709 to 1730, and this has been freely used. An extremely interesting new portrait is given from a picture that was taken at Rome, in Berkeley's earlier manhood—under thirty-five. Another occasion may be chosen to remark on some points in this which we may now regard as Prof. Fraser's final presentation of his favourite subject. Meanwhile the volume may be strongly recommended to the attention of all philosophical readers.

The Science of Beauty: An Analytical Inquiry into the Laws of Æsthetics. By Avary W. Holmes-Forbes, M.A., of Lincoln's Inn, Barrister-at-Law. London: Trübner, 1881. Pp. 200.

Apart from a certain lightness of tone and what looks like haste in execution, the author's essay differs from the old-fashioned "inquiry" of a century ago chiefly by its candid assumption of "idealism," in the sense of subjectivism or relativism. His analysis is summed up in four propositions, which the book illustrates in detail:—(1) The subjective element of beauty consists in the emotion of admiration. (2) The objective element of beauty consists in the quality of suggestiveness [by way of association]. (3) Beauty attaches only to utility. But (4) the appearance of beauty varies inversely with the appearance of utility. The proof of the last proposition or "law" consists in an attempt to show that in proportion as a thing is useful it is less likely to be thought or called beautiful or (if artificial) to be "ornamented". It is a superficial kind of proof, even when it is not obviously forced. The author, if he means his third proposition seriously, should find some other way of giving it the necessary limitations and modifications than by such a loose paradox as his fourth.

Seven Lectures on the Doctrine of Positivism. By J. Kaines, D.Sc. London: Reeves & Turner, 1880. Pp. 122.

These Lectures, delivered at the Positivist School in 1879, were "not meant for Positivists, but for any who may wish to become acquainted with the leading features of the new philosophical, political and religious system"; and they carry out the intention fairly well. They contain, at the same time, the usual amount of Positivist exclamation against later inquiry.

Mind in Animals. By Professor Ludwig Büchner. Translated with the Author's permission from the German of the Third Revised Edition, by Annie Besant. London: Freethought Publishing Co., 1880. Pp. xii. 359.

The work here translated appeared first in 1876. Its title is misleading. The author deals only with ants, bees, wasps, and spiders, adding a few pages on beetles. He has collected his matter with some

diligence from many books, but puts it loosely together. There is a short historical Introduction, including some general remarks on Instinct. The author finds in the facts which he brings together proof "that the same intellectual or spiritual principle, call it reason, understanding, soul, instinct or propensity, pervades the whole organised series". There is here something noteworthy in the expression, as coming from him.

LOCKE'S *Conduct of the Understanding.* Edited with Introduction, Notes, &c., by THOMAS FOWLER, M.A., &c. Oxford: Clarendon Press, 1881. Pp. xxiv. 136.

The Editor adopts the words of Hallam who "cannot think any parent or instructor justified in neglecting to put this little treatise in the hands of a boy about the time when the reasoning faculties become developed"; and furnishes this handy reprint with an Introduction, mainly biographical, and thirty pages of Explanatory Notes at the end. (In the biography he repeats with some aggravation the odd error noted by Prof. Land in MIND XXI., 132 n.)

Mathematical Psychics. By F. Y. EDGEWORTH. London: Kegan Paul, 1881. Pp. 148.

The author, who is known to the readers of MIND, by his article on "The Hedonical Calculus" in No. XV., thus describes the scope of his work:—

"The psychical first principles of *Maximum Pleasure* (Individual and Universal) are identified with the physical first principles of (in a wide sense) *Maximum Energy.* Life is dimly viewed as a sort of pleasure-mechanism: a system of explosive engines whose stored energy is let on by the tremulous movements of a delicate magnetico-hedonic system, itself obedient to a physical maximum-principle. A system of interacting pleasure-machines, each tending to individual maximum pleasure-energy, finds its equilibrium either by way of *war*, or *contract. Contract* between 'economic' (self-interested) agents is in general and except in the special case of a perfect market *indeterminate:* in cases of monopoly, of trades-unions (the mathematical doctrine of which is very heterodox), of co-operative association, and sundry other kinds of commercial, and almost every sort of political, bargain or pact. Whence the widespread need of *arbitration. The principle of arbitration* between self-interested contractors, it is mathematically argued, is the general interest, the *greatest possible utility* of all concerned. Thus the Economical leads up to the Utilitarian Calculus; in the mathematical view of which the most striking peculiarity is perhaps a certain aristocratic feature of *preference and selection,* recalling Plato more than Bentham."

Conscious Matter, or the Physical and the Psychical universally in Causal Connexion. By W. STEWART DUNCAN. London: Bogue, 1881. Pp. 128.

"The object of this little treatise," says the author in his preface, "is to remove certain formidable barriers to the progress of modern psychology. . . . It is an attempt to bridge the chasm between physical and psychological science". And thus (pp. 62-3):—"The essential difference between

the mental and physical is such as can only be expressed by such words as Receiving—Imparting the received; Feeling—Acting or causing to feel, Suffering—Causing to suffer. . . . Now since every part of matter alternately receives and imparts the influence it receives, I see no valid reason for objecting to the hypothesis that all matter is alternately psychical and physical when it alternates between the two states of receiving an influence and imparting the received influence." On p. 73, he exclaims:—"The days of the Concomitance-theory are numbered, for the Theory of Alternation is destined to supplant it. To the older theory, therefore, I desire to bid a final and respectful adieu!"

The Beautiful and the Sublime. An Analysis of these Emotions and a Determination of the Objectivity of Beauty. By JOHN STEINFORT KEDNEY. New York: Putnam, 1880. Pp. v. 214.

This is an attempt to discover the conditions of beauty as a subjective state of emotion, and then to determine beauty as an objective quality. The view taken, though worked out in a manner peculiar to the author, approximates to the well-known doctrine of spiritualistic philosophers. "The symbolic correspondence of anywhat in nature to the subjective ideal of the perfect physical life constitutes its beauty for such appreciant." The world about us presents in general such a correspondence, being the manifestation of the Divine Spirit, which is thus the "last secret" of Beauty. The work is written in a somewhat rhapsodical style, and is not always clear. It is characterised by a distinct vein of mysticism. At the same time it contains many good observations and criticisms. The work is an illustration that mysticism in speculative conceptions is not incompatible with keen insight into everyday homely fact.

[J. S.]

La Mort et le Diable: Histoire et Philosophie des deux Négations suprêmes. Par POMPEYO GENER, De la Société d'Anthropologie de Paris. Précédé d'une lettre à l'Auteur de M. Littré, Membre de l'Académie française. Paris: Reinwald, 1880. Pp. xl., 780.

M. Littré's letter (pp. xv.-xxxiv.), written five years ago, while the book was still in progress, welcomes it as the work of a young Spanish convert to positivism, and as a proof of the fruitfulness of positivist ideas. The author, in writing from a distinctively positivist point of view, does not conceive this in any narrower sense than M. Littré himself. His work is of a very elaborate character, and falls into two main parts. In the first, dealing with Death and Immortality, he begins with a historic sketch of the conceptions among the chief civilised peoples, ancient and modern, down to the era of the French Revolution; and follows this up with a philosophical discussion of Life and Death, Body and Soul, and Immortality, in the light of the latest results of science; before drawing the practical positivist conclusion. The second part, in like manner, traces the historic evolution of the idea of Evil through all its personifications, and then considers it philosophically, again with the practical application. It is a learned and thoughtful, and also a well-written book: ambitious in design, and not coming short in execution.

De la Connaissance de Soi-même. Essais de Psychologie analytique. Par CHARLES LOOMANS, Professeur des Facultés de Philosophie et de Droit et ancien Recteur de l' Université de Liège. Bruxelles: Muquardt, 1880. Pp. 574.

The author's psychological analysis has a value for himself chiefly as it is found to lead upon every line to one general philosophical conclusion—the truth of spiritualism, as distinguished from any vague form of idealism by its definite position of the three ideas of Liberty, God, and Immortality; but it has also much independent merit. It is disposed in six parts (between an Introduction in which the relations of philosophy and psychology are determined, and a Conclusion in which the ultimate philosophical inferences are drawn):—(1) The fundamental Method of psychology; (2) The notion of Mind; (3) The fundamental Faculties; (4) Intelligence; (5) Intellectual Sensibility; (6) Will. While adhering in the main to the subjective point of view, the author is forward to use all the side-lights of modern inquiry; and in describing the tripartite division of mind, which he frankly accepts, he deserves special credit for not neglecting the *social* developments of intellect, feeling, and will. His general position, psychological as well as philosophical, is indicated in his dictum—"The idea of mind is the idea of individual and personal energy".

Infini et Quantité. Étude sur le Concept de l'Infini en Philosophie et dans les Sciences. Par F. EVELLIN, Ancien Élève de l'Ecole Normale supérieure, Agrégé de philosophie, Professeur de philosophie au Lycée Saint-Louis. Paris: Germer Baillière, 1881. Pp. 272.

This is a remarkably thorough investigation of the notion of Infinity, more especially in relation to Quantity. The author claims as the result of his inquiry that, upon his principles, mathematics is freed from all contradiction, internal or external, and brought into harmony with itself and with the other sciences; so that reason is recognised in the system of human cognition, as in the system of things, by the mark of unity. But he is not less concerned to make manifest the necessity of metaphysic as the only reconciler of the sciences. The main drift of his thought regarding Infinity is conveyed in the following passage:

"The Infinite, being incompatible with reality, has no place in the sciences of nature or, more generally, in the concrete sciences, whether they refer to matter or mind. It has not and cannot have access except in that order of speculations where the possible is substituted for the real, the idea for the fact; while even there its use becomes legitimate only as it is resolved into the only intelligible notion corresponding to it, that of the Indeterminate or Indefinite. The infinite outside of us, the infinite considered objectively, is impossible. It is only in thought that it exists and with purely virtual existence, as then representing the excess of power over act, of the faculty which is not, over the operations of the faculty which alone are, exhausted."

The treatment is in three parts: (1) The Infinite in Nature; (2) The Infinite in Mathematics; (3) The Infinite in Philosophy; with an introductory section, containing a short history of the Infinite, the different view of the problem as had by imagination and reason, and preliminary definitions.

Les Maladies de la Mémoire. Par Th. Ribot, Directeur de la *Revue Philosophique.* Paris: Germer Baillière, 1881. Pp. 169.

The following summary of the author's conclusions gives the best notion of the scope of this interesting monograph:—

"Memory is a general function of the nervous system, based on the property its elements have of conserving any modification received and of forming associations. These associations, resulting from experience, may be called dynamical, as opposed to natural or anatomical associations. The conservation is assured by nutrition, constantly renewed. The reproductive power depends chiefly on the circulation. All that is essential in memory is thus connected with the fundamental conditions of life. The rest—consciousness, exact localising of recollections in the past—is only higher manifestation. . . .

"These preliminaries established, we have classed and described the diseases of memory" chiefly by way of example, and with these results: (1) "Memory must be resolved into memories"; (2) "Destruction of memory follows a law". "In the case of *general* dissolution, the invariable order is—recent facts, ideas in general, sentiments, acts. In the best-known case of *partial* dissolution (forgetting of signs), the invariable order is—proper names, common names, adjectives and verbs, interjections, gestures. In both cases, the course is the same—retrogression from the newest to the oldest, from the complex to the simple, from the voluntary to the automatic, from the less to the more organised. The law is verified by the rare cases where the dissolution has been followed by restoration—in the inverse order. It affords an explanation of particular extraordinary revivals, as being a return of the mind backwards to conditions that seemed for ever gone. The law is connected with the physiological principle—that degeneration first attacks the most recent formation; and with the psychological principle—that the complex disappears before the simple, because it has been less often repeated in experience."

La Fisiologia del Sistema Nervoso nelle sue Relazioni coi Fatti Psichici. Del Dottor Mario Panizza, Primo Assistente alla Cattedra di Clinica Medica nella R. Università di Roma. Seconda Edizione. Roma: Manzoni, 1881. Pp. 258.

This book contains a critical examination of what the author calls the two postulates of the physiology of the nervous system: (1) that the nerves are conductors of sense-impressions from the periphery to the nerve-centres and of the motor impulses of the will from the nerve-centres to the muscles; (2) that external objects, to be perceived, have to make impressions on the organs of sense. The examination satisfies him that both assertions have no foundation in experience and are altogether contrary to truth. At the same time, he thinks he is able, by a historical line of inquiry, to show how they have acquired the credit they possess. For himself he will prove, in another work

to which the present one is only introductory, that the physiology of the nervous system is in a condition to solve its difficult problems without recourse to these or any other hypotheses, but keeping simply to facts. We must wait for the promised work before attempting to appreciate the exact force of his present criticism. It is easy to point out deficiencies in the present theory, and make a plausible case against it from the loose psychological expressions of many of its supporters. If the author can put the "facts" in altogether new light, it will be a remarkable achievement. The erudition displayed in his present inquiry deserves acknowledgment.

Zwangsmässige Lichtempfindungen durch Schall und verwandte Erscheinungen auf dem Gebiete der anderen Sinnesempfindungen. Von Eugen Bleuler, Cand. Med u. Karl Lehmann, Cand. Med in Zürich. Leipzig: Fues, 1881. Pp. 96.

This research by two Zürich medical students was started by a peculiarity in the experience of one of them, who regularly associates particular representations of colour with sounds and other sensations. The phenomenon has been previously remarked as occurring in particular individuals, *e.g.*, by Fechner in his *Vorschule der Æesthetik*, and is related to the phenomena of visualisation lately investigated by Mr. F. Galton in this country; but the authors conducted their inquiry independently, and have collected and ordered with care a large quantity of evidence on the subject. Their main conclusions are thus expressed in their own technical terms:

(1) Bright photisms are roused by high sound-qualities, strong pains, sharply defined touches, small forms, pointed forms. Dim photisms by the opposite.

(2) High phonisms are roused by bright light, sharply defined touches, small forms, pointed forms. Deep phonisms by the opposite.

(3) Photisms with sharply defined forms, also small photisms and pointed photisms are roused by high sounds.

(4) Red, yellow, and brown are frequent photism-colours; violet and green, rare; blue stands between.

(5) There is not uniform agreement in different people.

(6) Unpleasant primary sensations can rouse pleasant secondary ones and *vice versâ*.

(7) The secondary sensations are hardly more affected by psychical processes than primary ones, and otherwise are invariable.

(8) The disposition towards secondary sensations is hereditary.

(9) Traces of them are very widely diffused. They were found of the more decided form in one-eighth of all the people interrogated.

(10) They are as common in the sane as in the insane.

Theismus und Pantheismus. Eine geschichtsphilosophische Untersuchung. Von Dr. W. Weisenberg, Docent der Philosophie. Wien: Faesy u. Frick, 1880. Pp. 267.

The author begins his "historico-philosophical inquiry" on p. 1 the moment we turn his title-page, and never once draws breath till he runs down on p. 267. There is no table of contents, not a single

heading to mark the way he goes, and it is something that he condescends to give the reader at least the help of paragraphs. Theism "is the philosophy of progress in belief in the true, good, and beautiful, and of progress in hope and love". Pantheism is just the opposite.

Sein und Erkennen. Eine fundamental-philosophische Untersuchung. Von Dr. Jul. Bergmann, ord. Prof. der Philosophie an der Universität zu Marburg. Berlin: Mittler, 1880. Pp. 191.

Following upon the author's *Reine Logik*, noticed at length in Mind XVII. 139, we have here his treatment of the question of Being in relation to the results there reached. The discussion falls into the five sections:—(1) The problem of Identity in the opposition of the Existent and the rightly Represented, (2) the content of the notion of Being, (3) the origin and value of the notion of Being, (4) the first step to solution of the problem of Identity, (5) the form of cognition of the Existent as such.

Illusions. By James Sully, Author of *Sensation and Intuition*, &c. "International Scientific Series." London: Kegan Paul.

"This *forthcoming* work aims at giving a complete psychology of Illusions. The term is taken in its wider popular signification, as including errors of Memory, and even certain errors of Belief, in so far as these approximate in their immediate self-evident force to false intuitions of sense. About one-half of the work is taken up with the Illusions of Sense, including Dreams. A considerable space is allotted to Illusions of Memory. In a final chapter the writer seeks to make clear the relation of the scientific to the philosophic treatment of the subject of illusion."

Symbolic Logic. By J. Venn, M.A., Fellow and Lecturer, Caius College, Cambridge. London: Macmillan.

"The aim of this *forthcoming* work is to give a full account of the nature and objects of that system of Logic of which Boole was the principal originator. It gives a critical explanation of the principles involved, pointing out what is the relation of this system to the ordinary one, and to what extent it involves a generalisation of the latter. Some historical account is given of the earlier attempts in this direction, from the time of Leibnitz onward, as also of the functions and employment of diagrammatic aids in Logic."

VIII.—MISCELLANEOUS.

The following letter appeared in the *Athenæum* of Jan. 22nd:—

"The death has been announced (at Kingstown) of a man whose name is not familiar to many readers, and yet whose early history excited in its day a long philosophical discussion. Dr. Jencken, when I came to know him, was a physician practising near Dublin, a man of large education, of liberal views, and of far more than ordinary culture. He was an accomplished musician; he was well read in metaphysics; he was learned in the deeper and more obscure branches of his profession. And yet up to the age of seventeen he had been stone-blind, and had only commenced his education by reading after a painful and tedious operation and much

resulting delicacy. His case is one celebrated among physiologists and psychologists as Dr. Franz's case, that physician having operated on him in the year 1841, and having published his account of it in the *Transactions of the Royal Society* in that year. The experiments of Dr. Franz upon his patient brought out some facts so important as to the primitive knowledge of extension by sight that it was taken up against the Association school by those who believe in space as a primitive form of intuition. From this point of view I had myself urged it against John Stuart Mill, and his last reply to me (in the third edition of 'Mill on Hamilton') conceded that, if the facts in Dr. Franz's case were accurately stated, his own views would require modification. The controversy rested there with Mill's death, and I was busy with other work, when one day Dr. Jencken called on me, and introduced himself as the actual patient in the case. He had not known at the time of Dr. Franz's paper, as the matter had been foolishly kept secret from both the patient and his family; and it was only after his settlement near Dublin that he accidentally, in reading a course of philosophy for his own improvement, discovered that his case had been the subject of a long discussion. Mill was dead, but Dr. Jencken came to talk with me, and deliver his impressions as to the merits of the controversy. I know that he had no objection to my stating here the main facts.

"It was, unfortunately, thirty years since the time of the operation, and therefore it may be urged that his recollections may not have been accurate. All I can say is that he was a man of singular candour as well as of acuteness, and that this wonderful crisis in his life had made the strongest impression upon him. He believed firmly that his recollections were perfectly accurate, and spoke with great confidence. At all events, he had made up his mind that as soon as he saw, he immediately saw and distinguished figures by that sense alone. This agrees with Dr. Franz's report. But what he added to me was very remarkable. I asked him whether the first objects of sight appeared very odd and strange to him. He said that as to colour they did, but that as to outline or figure they were so exactly what he had expected from touch, that he should have been surprised had they been different. He repeated this to me in various forms, adhering to the fact. This statement should have been made public long ago, when others could have tested it by further questioning of an intelligent and willing witness. Unfortunately, various engagements and distractions prevented its timely appearance, and now this able and interesting man is gone to his rest. The fact remains that a man who partially recovered his sight at the age of seventeen, so as to use one eye well, and to become a learned and competent judge, decided this question in favour of the original power of discriminating figure by sight alone. "J. P. Mahaffy."

The Platonist, "a monthly periodical, devoted chiefly to the dissemination of the Platonic Philosophy in all its phases," is announced to appear, under the charge of Thos. M. Johnson, Osceola, Mo. U.S.A. (present address). The price to English subscribers will be 8s. yearly. Among other features of the journal, "the republication of the writings of Thomas Taylor, that noble and most genuine Platonist of modern times, will be made a specialty".

Mr. James Spedding, the devoted biographer of Bacon and editor (with R. L. Ellis and D. D. Heath) of his works, died on March 9th, at the age of 72, from the effects of an accident on March 1st.

The Rev. W. Cunningham has been appointed to act as deputy, at Cambridge, for Professor Birks, who is disabled.

Revue Philosophique.—VIme Année, No. 1. A. Fouillée—Le néo-kantisme en France. (i). La morale criticiste. E. Naville—Les conséquences philosophiques de la physique moderne. H. Spencer—De l'intégration politique. Notes et Documents (Descartes et la Convention Nationale). Analyses et Comptes-rendus (Fowler's *Bacon's Novum Organum*, &c.). Rev. des Période. No. 2. A. Espinas—La philosophie en Écosse depuis le commencement du 18me siècle : première période. H. Spencer—De la différenciation politique. H. Lachelier—L'enseignement de la philosophie dans les universités allemandes. Analyses et Comptes-rendus (E. Krause et Ch. Darwin ; *Erasmus Darwin*, &c.). Rev. des Période. No. 3. J. Delboeuf—Le dernier livre de G. H. Lewes. Ch. Secrétan—La religion, la philosophie et la science. H. Spencer—Des formes et des forces politiques. P. Tannery—L'éducation platonicienne (ii.). Analyses et Comptes-rendus (M. Guthrie, *On Mr. Spencer's Formula of Evolution*, &c.). Rev. des Période. Correspondance.

La Critique Philosophique.—IXme Année, Nos. 46-52 ; Xme Année, Nos. 1-6. C. Renouvier—La doctrine économique de l'harmonie des intérêts suivant la critique d'Albert Lange (46) ; L'éducation populaire (48) ; Politique et socialisme : (iv.). La question du progrès : Hegel (49) : (v.). Turgot (51) : (vi.). "L'état théologique de l'esprit humain" (52), (vii.). "L'état metaphysique de l'esprit humain" (2) ; F. Pillon—L'utilité de la confession (47) ; J. Milsand—L'anatomie du radicalisme (48, 50) ; W. James—Les grands hommes, les grandes pensées et le milieu (51, 52, 1).

Zeitschrift für Philosophie, &c.—Bd. LXXVIII. Heft 1. E. Pfleiderer—Kantischer Kriticismus u. englische Philosophie (iii.). E. Schärer—Johann Anton Ferdinand Röse aus Lübeck. W. Schuppe—Das System der "Erkenntnisstheoretischen Logik". E. Westerburg—Schopenhauer's Kritik der Kantischen Kategorienlehre (i.). Recensionen (E. Caird, *Philosophy of Kant*, &c.). Notizen. Bibliographie.

Zeitschrift für Völkerpsychologie u. Sprachwissenschaft.—Bd. XII. Heft 4. H. Siebeck—Die Entwicklung der Lehre vom Geist (Pneuma) in der Wissenschaft des Alterthums. F. Misteli—Herbart's Sprachauffassung im Zusammenhange seines Systems. O. Flügel—Ueber die Entwicklung der sittlichen Ideen (Schluss). Beurtheilungen (G. Allen, *Der Farbensinn*, &c.). H. Siebeck—Nachträge zur Lehre von Pneuma.

Philosophische Monatshefte.—Bd. XVI. Heft 9. W. Schuppe—Das Verhältniss zwischen Kant's formaler u. transcendentaler Logik. Th. Lipps—Die Aufgabe der Erkenntnisstheorie u. die Wundt'sche Logik. Recensionen u. Anzeigen. Literaturbericht. Bibliographie, &c. Heft 10. A. Stadler—Das Gesetz der Stetigkeit bei Kant. Recensionen u. Anzeigen (R. Adamson, *Ueber Kant's Philosophie*, &c.). Literaturbericht, &c.

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Erratum.—In No. XXI. p. 103 n. the title of G. H. Schneider's pamphlet should have been : *Die psychologische Ursache der hypnotischen Erscheinungen.*

No. 23.] [July, 1881.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—THE HISTORY OF THE WORD 'MIND'.

The word 'Mind' is a great word. It is invested with a highly important function in the English language; and the steps by which it has reached that position are interesting to trace. It has every title to be called a great word. For, in the first place, the word covers a large area of signification, and comprises a number of subordinate words which have their field within its province. All words of supraphysical signification, such as Sense, Emotion, Memory, Reflection, Discernment, Instinct, Reason, Intelligence—all these and many more do but express severally some particular aspect of that power which is comprehensively designated as Mind. When the signification of a word is a large and commanding one, when its associations are dignified, and when its use is so frequent that the word may be called an indispensable word, then we have the elements which constitute what we mean by a great word.

It adds to the impression of greatness, if such a word is partially shrouded with the obscurity of age; if it is not too perfectly transparent; if in fact we must ascend into some previous era to get an intelligent view of its present position. For example, Law is a great word and so is Science. Perhaps there is not much to choose between these two words in respect of area, dignity, indispensability. But one of these words has a haze of remoteness about it, while the other is as transparent as

a piece of new glass; and I suppose all would agree that Law is a more impressive word than Science. All the conditions here indicated meet upon the word Mind; it is comprehensive, dignified, indispensable, and it has moreover the impressiveness which a venerable mantle of antiquity confers.

And yet further, a special interest attaches to this word, from the circumstance that it is peculiar to the English language. It has existed indeed in the raw material of its physical form before our people were planted in this island: the group to which it belongs is common to many languages, but it has made for itself this high and permanent seat in the English language only. How recently the operation was completed, we shall see as we proceed. But we must begin far back, among the earliest records of our people.

It might perhaps be imagined that at the distant epoch here contemplated there were as yet in the languages of the barbarians no considerable words regarding the mental region, no anciently established and deep-rooted words to express the supra-physical, invisible, spiritual side of human nature. Such an idea would be a mistake, and we must seek to avert it at the very outset. Not only so, but we must endeavour to establish the full persuasion of a contrary opinion. For this purpose it may be convenient to employ independent testimony. Jacob Grimm, in his Preface to *Andreas und Elene*, p. xxxix., speaking of points of similarity between the Anglo-Saxon and the Scandinavian poetry, observes that the ancestral speech was rich in expressions for the spiritual side of human nature. He continues—

> Hyge and myne *animus*, Icelandic hugr and munr bear a significant relationship to Huginn and Muninn the wise ravens of Odin through whom he gathers information, just as each man explores the world with his senses and reflection. Moreover, sefa and gehðu answer to the Icelandic sefi and geð as sense and thought; mód and ferhð are rather *animus* in the practical signification of bravery and courage; hrêðer and breóst express the seat of intelligence in the body; willa is the resolution, *voluntas*.

These definitions are not of much value: they convey the last impressions of the writer rather than any firm usage. Such mental words were indeed numerous, but they were vague, and perhaps they were numerous because they were vague. I have quoted this passage more for the benefit of the author's name than for the solid value of the contents. It will at least show that there were plenty of mental words, and save me from the need of enumerating words which would have no associations for most readers.

There are, however, three words which deserve a particular notice, two of them for the great positions they have held and

continue to hold, and the third for its past celebrity and its historical relation to our present subject.

The first is the ancestral word which in Anglo-Saxon was *sawul*, and in Moesogothic *saiwala*. This word has been thought to be connected with *sea*, Anglo-Saxon *sǽ*, Moesogothic *saiws*, from a root signifying motion and life. However this may be, the word corresponded in signification to Greek ψυχή and Latin *anima*, and in the wake of these words it passed into the domain of Theology, where it is permanently established as German *Seele* and English *soul*. A pointed illustration of the correspondence between *anima* and *sawul* is afforded by a passage in the Anglo-Saxon Manual of Astronomy, where a caution is given against confusing the breath with the soul :—Nis na seo orðung þe we ut blawað and inateoð ure sawul, ac is seo lyft þe we on lybbað : *i.e.*, The breath which we exhale and inhale is not our soul, but is the air upon which we live.

The second is the word for *spiritus ;* Anglo-Saxon *gast*, German *Geist*, a word that is meagrely represented by the modern *ghost*, and maintains its ancient dignity only in that connexion where it is written with a capital initial. That these two words fill the same places in English and German theology, is due to intercommunication in Christian times, but the original fact that the words were common to the two languages is evidence of their ancestral antiquity.

The third is a word that may at first sight seem hardly worthy to be grouped with the other two. Its greatness is a thing of the past ; it is indeed enumerated above in the quotation from Grimm among words of old poetic status, but in modern English it is rather lost in the crowd. And yet it is for our immediate purpose of more consequence than either of the former ; it is as I may say the pedestal of the great word which I have undertaken to describe. The word of which I speak is Anglo-Saxon *môd*, O.H. German *muot*, German *Muth*, English *mood*. Its origin is so obscure that we must renounce the attempt to trace it. In meaning it corresponded to the Latin *animus*, the impulse of thought and action : and in the mediæval poetry it means passion, humour, temper ; just as in the *Children in the Wood* :

> But he that was of milder mood,
> Did slay the other there :—

In German, *Muth* bears various senses, but the stock idea is animal spirits, courage. Such appears also to have been in Anglo-Saxon the fundamental sense of the word, but by the earliest date at which we touch it, it had become the most general and comprehensive word for the inner man, and the most capable of being compared with and rendered by our present Mind. Indeed

this *môd* seemed to fill the whole area of the vaguely apprehended inner part of human nature; as against the physical and visible outer part. Among Hroðgar's abundant praises of Beowulf, the fullest is comprehended in a single line where *mægen*, main, physical force, is coupled with *môd*:

> þu eart mægenes strang and on môde frôd.—*Beowulf*, 1845.
> (Thou art strong in main, and wise in mood.)

And this phrase *on môde*, which here is quite presentatively employed, became so frequent, and so subtilised by the frequency of its application, that it attained the refinement of a pronominal symbol, thus: *Ic cwæð on môde*, I said within myself.

The book which best exhibits the higher pretensions of *môd* is Alfred's version of the *Philosophiæ Consolatio* of Boethius. This is not a mere translation, but a free adaptation of the text to the translator's own thoughts and experience. He plays many variations upon his original. Whereas in the Latin the dialogue is between Philosophy and Boethius, we find in the Saxon version an impersonation of the Mind, under the name of *þæt Môd*, and this character takes the part of Boethius. If on the one hand *þæt Môd* seems to be the faculty that is dejected and needs consolation, yet on the other hand it is a power that can exchange reasons with Philosophy. We have here a satisfactory evidence if not of the exact sense attached to the word, yet of the fact that it was the most preferable word to represent the whole inward nature of man, passive and active, moral and intellectual.

At the same time it is plain that the word was not universally accepted as a chief exponent of the inner man; when admitted into such a function it was generally combined with other words. Of itself and by itself it naturally gravitated to that first and most habitual sense, of the condition of the animal spirits. When it is to be used in the higher sense it must have the support of a determinative accompaniment. The testimony of Alfred's *Boethius* is indeed valuable, but we must remember that it is peculiar. This is no average book, but the study of one who separateth himself and intermeddleth with all wisdom. Expressions in the English of King Alfred have often a pitch of elevation which is given to them for the occasion, and sometimes if you meet them in the ordinary walks they hardly look like the same words.

There is a vast interval between such primitively simple words as *sawul*, *gast*, *môd*, and any sort of compound, even though of that earliest native type, the compounds with *ge-*, to which our word belongs. Its original form was GEMYND, and it was the substantive to an old verb *geman*, I remember; an old preterite

used as a present tense, exactly like and equivalent to the Latin *memini*, which is moreover a cognate. The preterit-present *geman* made its plural *gemunon*, they remember, and its past participle *gemunen*, and here we see the *u* that accounts for the *y* in *gemynd*.

Any word whose pedigree is so clear, though justly counted old in our time, must be considered as recent by comparison with such a prehistoric word as *môd*. *Gemynd* is one of those comparatively recent formations which, like *gecynd* nature, *gescead* discretion, however old chronologically, have the marks of their making distinct and fresh upon them. And yet, with all this recency of stamp, it is found in our earliest writings, namely, in Ulphilas, in the form *gaminþi* remembrance.

It is missing in High German. The nearest relative to our word that is found in German is a word that springs, not from *geman* but from an ascendant of *geman*, from the verb of which *geman* is formally the preterite, namely, *minan* connected with *memini*, and *mens*, and Sanskrit MAN think, remember; and so again with the Pangothic *man* (homo) the thinking creature; and with all these we must associate the Greek *μένος* force, and the Homeric *μέμονα* I think of, yearn for.

In the Metrical English Psalter published by the Surtees Society, a book which represents Northern English of the thirteenth century, we find the well-known words of the eighth Psalm, "Quid est homo quod memor es ejus?" translated thus: "What is man, that thou mines of him?" and this *mines* looks like the original radical verb *minan*.

From this root-verb there sprang a word which has been famous in German literature. The High German *Minne* from the idea of Remembering became specialised to that of Love; it stood as the *vox propria* of romantic love in the poetry of chivalry from the twelfth to the fourteenth century, and the masters of this poetry were known as *Minne-Sänger*, singers of Love. In process of time however the word degenerated so much from its high poetic and religious aspect, that in the sixteenth century being no longer socially available it was allowed to drop and die out, only to be revived again in the middle of the eighteenth century as a quaint archaic gem of the mediæval poetry. Such is the history of the nearest relative to our word that is found in the High German branch.

This will perhaps be enough about the antecedents and connexions and earliest surroundings of our word:—we will now begin to follow its progress. At first it betokened remembering, and of this signification we may observe three gradations:—

(1) The form was *gemynd* (fem. and neut.), and its first meaning is simply Remembrance, Memory. It has no other

sense in the *Beowulf*, where it appears in two conspicuous passages. The hero dying enjoins that his warriors should rear on the site of his bale-fire a mound to be called Beowulf's Barrow:

> se sceal to gemyndum minum leodum
> heah hlifian on Hrones næsse (l. 2805).
> (It shall tower aloft on Hronesness for a remembrance to my people.)

The other passage speaks of rich heirlooms worn for personal ornament, and such wealth is called "maððum to gemyndum," treasure for remembrancings, treasure memorial.

In an eleventh century memorandum of a Guild that flourished at Abbotsbury, one of the members bequeaths to the fraternity the Guildhall with the ground it stands on, "for a perpetual remembrance of himself and wife"—"him and his gebeddan to langsumum gemynde". *Cod. Dipl.* 942.

A more internal illustration of this sense occurs in *The Wanderer*, where it stands for the exercise of memory:—

> þonne mâga gemynd môd geondhweorfeð (l. 51).
> (When memory of friends rushes through the mind).

In the fifty-first Psalm it stands for the faculty of Memory. "Delictum meum coram me est semper," is thus rendered:—"Mine synna beoð symle beforan me, on minum gemynde": where the latter words have been added for explanation, and they signify "in my memory".

(2) Immediately springing out of the former, is the sense of Monument, Memorial: a work of art to preserve and keep up memory.

In Ælfric's Homily for St. Stephen's Day, Dec. 26, there is repeated reference to the Gemynd of the saint:—"Geneosoḍan ða halgan cyrcan on þære þe wæs ðæs wuldorfullan Stephanes gemynd" = "They visited the holy church in which was the glorious Stephen's monument". It appears plainly from the context that the object meant was a reliquary shrine.

Again in the same author: we read how that Philip the tetrarch founded Cæsarea Philippi, calling the place Cæsarea after the Emperor, and Philippi "for his agenum gemynde" for a memorial of himself, Vol. I., p. 366. In such a connexion as this the word seems to abut on the sentiment of celebrity, fame, *gloire:* and so in another place of Ælfric, where he is commenting on the fact (strange to his hearers) that Herod's son should be called Herod, he continues—

> Ac hit wæs gewunelic on ðam timan þæt rice menn sceopon heora bearnum naman be him sylfum, þæt hit wære geðuht þæs ðe mare gemynd ðæs fæder ðaða se sunu, his yrfenuma, wæs geciged þæs fæder naman. *I.e.*, but it was customary at the time that rich men should give their

children names after themselves, that the father's distinction might seem the greater, when the son, his heir, was called by his name. I. 478.

(3) A third and historically very important meaning is Commemoration. In the language of the Calendar the Commemoration of Martyrs is "martira gemynd". Ælfric begins a Sermon for the day of the Inventio Crucis (May 3) with these words:—"Men ða leofestan, nu to dæg we wurðiað þære halgan Rode gemynd":—"Beloved people, now to-day we celebrate the Commemoration of the holy Rood". And a Commemoration Day was *gemynddæg*, just in the same sense in which we shall see a like expression come prominently forward by-and-by in the fifteenth century. A good place to see it with all explicitness, is in *Cod. Dipl.* 353. This sense had a great career, which will arrest our attention again. And it runs back into high antiquity. We have some meagre fragments of a Moesogothic Calendar, and the *gaminþi* appears there exactly as *gemynd* in the Saxon Calendar. Indeed *gaminþi* seems to have covered just the same area for the Goths of the fourth century as *gemynd* did for the Saxons of the eighth or tenth: it is used for memory, remembrance, in the translation of Ulphilas, as 2 Tim. i. 3, "I have of thee remembrance in my prayers night and day":—"Haba bi þuk gaminþi in bidom meinaim naht jah daga".

The above three meanings make a group of almost intercommunicable senses; and when we find two out of three in the Moesogothic remains of the fourth century, we feel ourselves on sure ground in regarding these senses Memory, Monument, Commemoration, as the original significations of the compound *Gemynd.*

(4) We seem, however, to touch even in Anglo-Saxon literature upon some nearer approaches to the modern sense of the word. One might indeed point out places in which *gemynd* can be perfectly translated by the modern word Mind: thus in a place of the Exeter Book where Mr. Thorpe has so translated it:—

> þæt is healic ræd
> monna gehwilcum þe gemynd hafað (p. 27, ed. Thorpe).
> (That is sublime counsel for every one that hath mind.)

Indeed, the general impression obtained by following this word down to the close of the Anglo-Saxon period is this: that it had arrived almost exactly (to compare small things with great) at the same position that, after battling with storms, and being kept for centuries out of port, it reached again in Shakespeare. In Shakespeare's time, as we shall see below, the word was capable of standing for anything emotional, mental or spiritual, but it did not in a distinct manner represent *Mens* as it does now. So likewise, in the close of the Anglo-Saxon

period, we find *gemynd* able to stand for Mind in a general Shakespearian way, but not at all sharply responsive to the sense of *Mens.* On the contrary, the stock word to translate *Mens* with down to Ælfric's time was still *môd;* this was the Anglo-Saxon word that without context stood over against *Mens;* as may be seen in Mr. Zupitza's edition of Ælfric's Grammar, p. 14.

From the foregoing it appears that Mind took its departure from a beginning in which it meant Remembrance. But if we look in the dictionaries under Mind we shall see that the catalogue of significations generally ends with this sense, instead of beginning with it. In the sematology of the word Dr. Johnson has been followed with small and unimportant variations. His definitions were arranged as follows: (1) The intelligent power; (2) Liking, choice, inclination, propension, affection; (3) Thoughts, sentiments; (4) Opinion; (5) Memory, remembrancy. Here we see that the fundamental meanings are ranged last, and the latest usage is placed first, so that the historical order of development is as nearly as possible reversed. But to return.

Our best evidence of the progress of the word along its future path arises from its combinations with elder words, and especially with the word *môd.* It has already been observed that this word held in early Saxon times the place most nearly analogous to that of Mind with us now. This power has so completely departed from the word that it may be hard for the reader to accept the statement. All our present associations of this word are with ideas of humour, temper, high or low spirits. And this was the old foundation of the word: the sense of Mind grew on this as an apex from a base; the elevation has decayed, and the basement remains. In Anglo-Saxon a man might be *môdes bliðe* blithe of mood, or *môdes geomor* sorrowful of mood: he might be *môdes fûs* prompt of mood, *i.e.,* courageous, ready for action—all these of the ground meaning; but then farther he might also be *modes gleaw* ingenious, skilful, prudent of mood; and the qualities of *môd* thus connoted were summed up in the compound *môd-cræft* faculty of mind.

Where the intellectual aspect of *môd* is intended, we find some more distinctly mental word assigned to it as a companion. Thus *môdes þeaht* Môds counsel; or *môdes gemynd* the Gemynd of the Môd; as where in Cædmon it is said of Tubal Cain that

> He through cunning force smith-crafty was
> and þurh môdes gemynd manna ærest
> and through môd's gemynd first of all men

invented the ploughshare. Or, the two are coupled, as where the same poet describes the patriarch drunk with wine:—

On ferhðcofan fæste genearwod
môdê and gemyndê :—

marvellously like Virgil's coupling of *mens* with *animus* in his description of the wild enthusiasm of the Sibyl :—

Magnam cui mentem animumque
Delius inspirat vates, aperitque futura.

But this more precise use of *môd* by the addition of a determinative is seen most effectively in the compounds which were made with *môd* for a base. They naturally fall into two groups, those which concern Feeling and those which concern Thought. Examples of the former: *môd-bisgung* worry: *môd-cearu* anxiety: *môd-cwânig* querulous: *môd-earfoð* distress: *môd-geþyldig* enduring: *môd-geomor* sorrowful: *môd-glæd* joyous: *môd-hete* hatred: *môd-hwæt* impetuous: *môd-lufe* love: *môd-rôf* haughty: *môd-sefa* disposition, temper: *môd-scoc* morbid: *môd-sorg* sorrow: *môd-swiðe* resolute: *môd-þracu* fortitude: *môd-þrea* horror: *môd-þryðo* stateliness: *môd-wlanc* insolent. Examples of the latter: *môd-cræft* ingenuity: *môd-cræftig* clever: *môd-gehygd* meditation: *môd-gemynd* mental activity, thought: *môd-geþonc* the same: *môd-geþoht* the same: *môd-gleaw* sagacious: *môd-hord* the hoard of the Môd, the thoughts: *môd-snottor* discerning: *môd-wên* opinion, literally, mood-weening.

It was hardly possible without a muster of examples to convey an impression of the great province of *môd*, or to estimate the nutriment it could supply to words in its partnership. Out of these we will select three as most to our purpose :— namely *môdgemynd, môdgeþonc, môdgeþoht.* These were powerful compounds, expressive of a vague sense of greatness in the powers of human thought. It was out of this group that Mind rose to its present office, and we can almost recognise in each one of these words a capable equivalent of Mind, though they were not as yet by any means strictly attached to that signification. In the *Elene*, when the advice of learned men is required, they are described as *þa þe leornungcræft þurh môdgemynd mæste hefdon* those who science of learning through mental ability most had, *i.e.*, those who by mind had most learning. But as to the expression of pure intelligence, perhaps *môdgeþonc* and *môdgeþoht* were more prominent than *môdgemynd.* When Cædmon describes the surpassing excellence of mind with which God had endowed the Archangel, he speaks thus :—*ænne hæfde he swa swiðne geworhtne, swa mihtigne on his môdgeþohte,* one had he made so strong, so mighty in his mind. For an example of *môdgeþonc,* I will quote the closing lines of Alfred's Boethian *Metres* :—

Man âna gæð metodes gesceafta
mid his andwlitan up on gerihte :
mid þŷ is getacnod þæt his treówa sceal
and his môdgeþonc mâ up þonne niðer
habban to heofenum ; þŷ læs he his hige wende
niðer swa þær nyten. Nis þæt gedafenlie
þæt se môdsefa monna æniges
niðerheald wese and þæt neb upweard.

(Man only goeth of the Maker's creatures,
with his countenance (lifted) upright :
by that is betokened that he his trust shall
and the thought of his mind more up than beneath
hold towards heaven ; lest he his heart turn
netherwards like the neat. It is not suitable
that the mood and affection of any of men
down-lurking should be and the look upward.)

As the word *geþoht* will claim attention again by and by, it will be well to have illustrated its importance and the fulness of its competition with *gemynd* for the function of expressing intelligence. In Exodus xxiii. 8, where our Bible says "The gift blindeth the wise," and where the Vulgate has "munera excæcant prudentes"—this text being embodied in Alfred's Laws, or the Prologue to them, takes this interesting form : "Forþon hie ablendaþ ful oft wisra monna geþoht," which compels us to use Mind in the translation, as Mr. Thorpe has done : "for they blind full oft the minds of wise men".

The competition of *Geþoht* and *Gemynd* will occupy us again presently, when we come to speak of Chaucer : but first there is another word that claims our attention.

The assertion may perhaps be ventured, that seldom if ever does a word of the first importance reach its station by a simple and unchequered career. The symbol-verb *to be* affords a ready example of this remark. The plurality of roots which in most languages have a share in this verb and give it a patched appearance, are a lasting evidence of the fact that several words were in the running for an office so vital for all the higher operations of language. In like manner the word Mind had many rivals before it reached the goal. The demolition of the Saxon standard of the language, and the formation of new centres of literary English, had for a long time the effect of obscuring whatever progress *Gemynd* had formerly made. In the twelfth and thirteenth centuries the word that mostly stood in its place was *wit*. The Saxon form *Gewit* had meant sense, perception, consciousness : in *Solomon and Saturn* (l. 23) it stands for that which distinguishes man from beast : as in *feoh butan gewitte*, cattle without reason : and the five senses were "the five wits" through Saxon and mediæval times, down to Shakespeare, who has it thus : "four of his five wits went halting off," *Much Ado* I. 1.

But in the *Ormulum* which is our best source for the thirteenth century, this word appears to hold nearly the place which we now assign to Mind. The promise of the tempter to the first man is thus conceived: "And tu shallt habbenn witt and skill in alle kinne thinge," *i.e.*, "Thou shalt have knowledge and ability in all kinds of things". Adam was tempted to desire greater mental powers than God had given him, and the faculties of which he desired more are enumerated as "innsihht and witt and shæd and skill," that is to say, "insight and intelligence and discernment and ability". Plans conceived in the mind are said to be in the "herte and wit": a man who intends to make a chest has the chest in his "herte and wit" before the tangible object is produced: all creation is said to have been previously in the "herte and wit" of God: the Divine Logos is represented as the "wit and word" of God. In such cases it seems plain that a word which commonly stands for sense, understanding, discretion, prudence, is raised as near as could be to the office now filled by Mind.

In all the twenty thousand lines of the *Ormulum* the word *minde* appears but on one occasion; if we may so completely trust the Glossary of Dr. White, lately revised by Mr. Holt, as to reason from it negatively. And I believe we may. On this single occasion the word *witt* accompanies *mind*, and it becomes a nice and critical question what value we are to assign to each. The context treats of the nature of the human soul, and its affinity with the nature of God. A quotation may be useful:

> And sawle is ec wurthlike shridd
> Thurrh Godd inn hire kinde,
> With undæthshildignesse, and ec
> With witt and wille and minde;
> And for thi nemneth Drihhtin Godd
> The sawle his onnlicnesse,
> Forr thatt tey bathe, sawle and Godd,
> Sinndenn withutenn ende,
> And hafenn minde and wille and witte.

(And the soul is eke worthily endowed by God in her nature, with immortality, and eke with wit and will and mind; and therefore the Lord God nameth the soul his likeness, for that they both, the soul and God, are without end, and have mind and will and wit.)

This looked at first like an ascending series, but as the ladder is alternately planted on either end, Which (we may ask) is the head of the ladder? The moral world is in the middle, having on its one side the stores of experience, and on its other side the creative originating intelligence. Which of these two is *minde* meant for? In the light of the past we should say *minde* must be the stores of understanding and memory, but in the light of the future we should assign this

place to *witt*, and see in the passage a forecast of the modern status of Mind. The rarity of the word Mind in Wiclif, and its numerical relation to *wit* is remarkably the same as in the *Ormulum;* but there is this difference, that in Wiclif there is no ambiguity about the direction in which the word points.

In an inquiry like the present, the evidence of carefully made translations from standard writings is of the highest value: and therefore it will be worth while to see the Wicliffite usage at full length. Indeed I am bound, in the interest of the argument, to quote the passages at large, because the object here is, not merely to show that *mynde* when used by Wiclif was used in a narrow sense, but much more to show, how numerous are the occasions on which the word is *not* used, where now it would be used, and where it was used in the Bible diction of the sixteenth century.

The Wicliffite versions appeared between 1380 and 1390, and they were made from the Latin. Accordingly I group the passages first according to the Latin word, and then subdivide them according to any diversity in the original. The English of 1611 is joined with the Latin and Greek. (The meaning of the asterisks will be explained later.)

Memoria (μνεία), *Mention, Remembrance.*

Rom. i. 10 : Y make mynde of zou euere in my preieris.
Eph. i. 16 : Makynge mynde of zou in my preieris.
Phil. i. 3 : I do thankyngis to my God in al mynd of zou.
1 *Thes.* iii. 6 : And that ze han good mynde of vs.

Memoria (μνημόσυνον), *Memorial.*

Mk. xiv. 9 : Schal be told in to mynde of hir.
Acts x. 4 : Thin almesdedis han stied up in to mynde.

Sensus (νοῦς), *Mind.*

Lk. xxiv. 45 : Thanne he openyde to hem wit.
Rom. i. 28 : Bitook hem in to a repreuable wit *.
xi. 34 : Who knew the wit * of the Lord.
xii. 2 : But be ze reformed in newnesse of zoure wit.
xiv. 5 : Ech man encrees in his wit.
1 *Cor.* i. 10 : Be ze perfit in the same wit *.
ii. 16 : Who knew the wit * of the Lord. . . . we han the wit * of Crist.
xiv. 19 : Y wole speke yue wordis in my wit *.
Eph. iv. 17 : In the vanyte of her wit *.
Col. ii. 18 : Bolnyd with wit * of his fleisch.
2 *Thes.* ii. 2 : That ze be not mouyd soone fro zoure witt *.
Rev. xvii. 9 : And this is the witt *, who that hath wisdom.

Sensus (διάνοια), *Mind.*

Col. i. 21 : Enemyes bi wit *.

Mens (νοῦς), *Mind.*

Rom. vii. 23 : The lawe of my soule *.
———— 25 : Bi the soule * serue to the lawe of God.

Eph. iv. 23 : In the spirit of zoure soule *.
1 *Tim.* vi. 5 : Corrupt in soule *. } *corrupti*
2 *Tim.* iii. 8 : Corrupt in undirstonding *. } *mente.*
Tit. i. 15 : Soule * and conscience.

Intelligentiae (*νοήματα*), *Minds.*

Phil. iv. 7 : Youre hertis and vndurstondingis *.

So far I have been contented with quoting from Professor Skeat's very handy little reprint of the second or revised Wicliffite version of the New Testament, as being the less archaic of the two, and every way sufficient for our inquiry. But here we come on a place, that deserves to be exhibited in both the versions, after the splendid quarto volumes of Forshall and Madden, in parallel columns :—

Mens (*νοῦς*), *Understanding :* 1 Cor. xiv. 14, 15.

Forwhi if I preye in tunge, my spirit preieth ; forsoth my mynde, *or resoun*, is without fruyt. Therefore what thing is ? I schal preie in spirit, I schal preie and in mynde, *or resoun ;* I schal seie salm in spirit, I schal seie salm in mynde, *or resoun.*	For if y preye in tunge, my spirit preieth ; myn vndurstondyng is with outen fruyt. What thanne ? y schal preye in spirit, y schal preye in mynde ; y schal seie salm in spirit, y schal seie salm also in mynde.

This passage is very much to our purpose : because it exhibits our word in or near to the sense we are specially interested in ; because here we have *mynde* for *mens* (*νοῦς*) ; and above all, because the sense of novelty and of transition is well marked in the elder version, by the explanatory accompaniment "or reason".

The only other place in which I have found *mynde* in these versions with an approach to the modern sense is in *Matt.* xxii. 37 (with the synoptic parallels) :—" Thou schalt loue thi Lord God, of al thin herte, and in al thi soule, and in al thi mynde," where the word represents *mens* (*διάνοια*), and where it is to be noted, that there are in the N.T. at least five other places with the same Latin and the same Greek word, where *mynde* has not been used, but either *soul* or *thought.* This passage is the more valuable because *heart* and *soul* hedge up the sense of *mynde*, and with the help of *mens*, secure the meaning against doubt. The great effect of our examination of Wiclif is to leave the impression that the word Mind had made little way towards filling the place of the Latin *mens.* An examination of Chaucer and Gower tends the same way. With them the prevalent sense of *mind* is still Memory :—

> And as the bokes maken minde.
> Gower, *Conf. Amantis*, vii.

> A tale, which cometh now to minde.
> *Id.* p. 206 ed. Pauli.

> Almighty God, that saveth all mankynde,
> Have on Constaunce and on hir child som mynde !
> Chaucer, *C.T.* 5328.

> In olde Romayn gestes men may fynd
> Maurices lyf, I bere it nought in mynde.
> *C.T.* 5546.

We even find it coupled bilingually with Memory, as,

> And westward in the mynde and memory
> Of Mars, he hath imaked such another.
> *C.T.* 1908.

In one place it signifies memory as part of consciousness:

> She said she was so mased in the see,
> That she forgate hir mynde, by hire trouth.
> *C.T.* 4947.

And yet Chaucer also displays the word in a manner which comes indefinitely near to its chief modern use, when he employs it as the counterpart of the body, thus:—

> O foule lust, O luxurie, lo their ende !
> Nought oonly that thou feyntest mannes mynde,
> But verrayly thou wolt his body schende.
> *C.T.* 5345.

> And neigh the castle swiche ther dwelten three :
> That on of hem was blind, and might not see,
> But it were with thilke eyen of his mynde,
> With which men mowen see whan they been blind.
> *C.T.* 4972.

There seems so little to distinguish between this and the modern use of the word, that it becomes all the more strange why Chaucer avoided the word when he was rendering the Latin *mens* or the Italian *mente*. It has been observed by Mr. Bernhard Ten Brink, that when Chaucer had these words before him, he habitually rendered them by the word Thought. The line in the *House of Fame* II. 16:—

> O Thought that wrote al that I mette

is after Dante *Inferno* II. 8:

> O mente che scrivesti ciò ch' io vidi.

In Boethius IV. Prose 1, the Latin "pennas etiam affigam tuæ menti" is rendered by Chaucer, "I shal ficche fetheres in thi thought": and a little further on, "quas cum sibi velox mens induit," is rendered "when the swift thought hath clothed it self in tho fetheres". It is curious to observe that in both these places the Old High German version uses *muot (i.e.*, our *môd)*:—"Ih kistello ioh ana dinemo muote die fettacha . . . unde so daz snella muot sie ana getuot."

In these examples the two words Mind and Thought appear as rivals for a certain prominence, and the latter seems to have

temporary possession of that place in which the former is now indisputably established. Perhaps one might say of Mind, as the word is now used, that it is the thing in which Thought resides, the subject of thought, the power which thinks. We cannot represent to ourselves the acts of thinking or of feeling, or of resolving, without some place to lodge them in, and that place is the Mind. Mind is coextensive with the capacity for experience, coextensive with consciousness, even with the faculty of sensation; but it has a special relation to Ideas, and when the word is used acutely, it means the faculty of Ideas. There can be no doubt that in the latter stages of its history the Latin *mens* has acted powerfully as an attraction. But in the examples from Chaucer we saw that he regarded Thought as the most fitting English word to represent *Mens*. The change therefore that has taken place in the position of the word since Chaucer's time is very considerable, and it is one which may reasonably provoke some curiosity.

I think that an historical explanation can be given. The popular use of the word Mynde in the fourteenth and fifteenth centuries was so intimately associated with the religious custom of commemorative masses for the Dead, that it seemed unfit for any signification that was of a totally different kind. In fact the use of the word for obits or periodical commemorations of departed relatives may be said to have stopped the way, and retarded the movement of the word Mind towards its destined station. For already there can, I think, be no doubt that the attraction of *Mens* had begun to operate. The examples from Wiclif seem to exhibit this plainly.

I apprehend then that the retarding obstacle was the popular use of the word Mynde for days and occasions of Commemoration, whether yearly or monthly, and that the obtrusion of this idea was too strong to allow the word to approach that post to which in other respects it was manifestly called. A good collection of facts in illustration of the prevalence of this use may be seen in Brand's *Popular Antiquities*, ed. Hazlitt, Vol. ii., p. 229: where it is also said that this use of the word is still retained in Lancashire. The following is quoted from Fabyan's Chronicle:—

> In 1493 died Sir Roberde Chichely, Grocer, and twice Mayor of London, the which wylled in his Testament that upon his Mynde Day a good and competent Dyner should be ordayned to certeyn pore men, &c.

The same historian left elaborate directions for his own "Moneth is Mynde". Anne Barneys in a letter written about 1536 to Thomas, Lord Crumwell, speaks of a Month's Mind in which there were as many as a hundred priests in attendance.

More recently, Sir Henry Piers, in his *Description of West Meath*, describes the continuance of the practice and its name:—

> In Ireland, after the interment of a great personage, they count four weeks; and that day four weeks all Priests and Friars and all Gentry, far and near, are invited to a great Feast, usually termed the Month's Mind.

And not only these recurrent obits, but also the periodical Commemoration of Benefactors to public institutions were called by this name. At All Saints Church in Bristol there existed, I know not how recently, a yearly custom of reciting the List of Founders and Benefactors, like the Commemoration at Oxford, and this ceremony went by the name of the General Mind.

We now pass on to the sixteenth century, and here our great source is the diction of the Bible translation with its successive revisions, extending from 1525 to 1611. And as we confine our view to the New Testament, we are struck with the almost finality of the stamp that William Tyndale imparted to the work in 1525: and we shall therefore take particular notice of his usage of our word. Through our first two groups in which Wiclif has *mynde*, but our Bible of 1611 has *mention, remembrance, memorial*, Tyndale has not retained *mynde* in a single place, and his word is in nearly every instance the same that is familiar to us now. In the groups that follow, where we have now *mind* but Wiclif had some other word, the asterisks in the Wiclif quotations signify how often Tyndale has *mind*, and accordingly how closely his steps have been followed by subsequent revisers. We may therefore dismiss this branch of the evidence with the remark; that whatever progress the Bible diction of the sixteenth century exhibits upon Wiclif in regard to the career of our word, was already mature in Tyndale's time, that is, in the third decade of that century.

And now came the Reformation, of which the effect was to abolish services commemorative of the dead; and if I have been right in thinking that the general use of the word Mynde in connexion with those religious customs was a retarding influence, which counteracted the tendency of the word to imbibe the spirit of *mens*, and to become its English representative, we may henceforward consider that it is liberated from that obstruction.

However it is to be accounted for, whether in the manner here intimated or in some other, it is a palpable fact that in the second half of the sixteenth century, the word Mind was prevalent as a favourite or fashionable word, a word of vogue: it was employed on all available occasions, like some new and fascinating toy. The second half of the sixteenth century rises up in the literary chronology of England over against the

second half of the fourteenth century, like mountain ranges facing each other and separated by a spacious valley that has almost widened to a plain. How great is the contrast between the avoidance of the word by Wiclif, and its free employment by the Bible translators of the sixteenth century is only partially intimated through the quotations already given. Only partially; for two reasons. In the first place, because our Bible diction is in its bulk a hundred years older than its reputed date; and in the second place, because these quotations were confined to the New Testament. Had we no better material than the Translations for proving the immense spring our word made in the second half of the sixteenth century, it would only be possible to establish the fact by a constructive piece of argumentation. But we have the best of all materials, the works of a great and varied dramatic poet, and we shall see how Shakespeare's free use of the word contrasts with the shyness of Chaucer.

That the word occurs a vast number of times in Shakespeare may readily be seen by the Concordance of Mrs Cowden Clarke or the Lexicon of Dr. Alexander Schmidt. But the numerical prevalence is a small part of the matter. It is the indefinable range and universality of a word that seems always in place wherever any action or affection of the internal constitution of man is to be designated. I can think of no better means of exhibiting this than by the diversity of rendering which the word has received in a careful foreign version. For this purpose I select Guizot's *Œuvres complètes de Shakspeare*, first because the translator knew the language he was translating, and secondly, because it is in prose. A poetical translation would evidently be useless here. I have in some cases added the renderings of a German translation, but this I could not complete, because my German prose Shakespeare, that of Eschenburg (Zurich, 1798), breaks into poetry sometimes. I will group the quotations under the French words which answer to Shakespeare's *mind* in Guizot's translation.

Âme

Jewels move a woman's mind.—*Two Gent.* III. 1, 91. *Herz.*
A mind that envy could not but call fair.—*Twelfth Night.* II. 1, 26. *Herz.*
The error of our eye directs our mind.—*Troilus* V. 2, 108. *Herz.*
I have a mind presages me such thrift.—*Merchant* I. 1, 175. *Herz.*
Not sick unless in mind.—*Merchant* III. 2, 236, 237. *Gemüth.*
Your mind is tossing on the ocean.—*Merchant* I. 1. *Gemüth.*
Both in mind and in my shape.—*Errors* II. 2, 196. *Beides an Seel und Leib.*
The mind shall banquet though the body pine.—*Love's L. Lost*, I. 1, 25. *Geist.*
While Gloster bears this base and humble mind.—*2 Hen. VI.* I. 2, 62. *Denkart.*

Esprit.

All dedicated to closeness and bettering of my mind.—*Tempest* I. 2, 90.
Geist.
To still my beating mind.—*Temp.* IV. 1, 163. *Herz.*
Complete in feature and in mind.—*Two Gent.* II. 4, 69. *Gemüth.*
Which never laboured in their minds till now.—*Midsr. Night* V. 1, 73.
Seelen (but this in poetry).
Men's minds mistrust ensuing dangers.—*Rich. III. II.* 3, 42. *Herzen* (in poetry).
A proverb never stale in thrifty mind.—*Merchant* II. 5, 54.
That song will not go from my mind.—*Othello* IV. 3, 30. *Sinn.*
Being over-full of self-affairs, my mind did lose it.—*Midsr. Night* I. 1, 114.

Coeur.

Minds swayed by eyes are full of turpitude—*Troilus* V. 2, 110.
He bears an honourable mind.—*Two Gent.* V. 3, 13.
So hard to me that brought your mind.—*Two Gent.* I. 1, 132.
Some messenger that might her mind discover.—*Two Gent.* II. 1, 155.
He bears too great a mind.—*Jul. Cæs.* V. 1, 112.

Mémoire.

How is it that this lives in thy mind?—*Temp.* I. 2, 49.
This present grief had wiped it from my mind.—*2 Hen. IV.* I. 1, 211.
Bearest thou her face in mind?—*Antony* III. 3, 32.
But when I call to mind your gracious favours.—*Two Gent.* III. 1, 6.
Call we to mind.—*1 Hen VI.* III. 3, 68.
Let me put in your minds if you forget.—*Ric. III.* I. 3, 131.

Pensée.

He tells you flatly what his mind is.—*Shrew* I. 2, 75.
Be not of that mind!—*Rich. II.* V. 2, 107.
Your betters have endured me say my mind.—*Shrew* IV. 3, 75.
There are worthies acoming will speak their mind.—*L.L.L.* V. 2, 579.

Sentiments (plural).

Keep in that mind.—*Merry Wives* III. 3, 71.
Keep your ladyship still in that mind.—*Much Ado* I. 1, 113.
And all the world was of my father's mind.—*As You like It* I. 2, 215.
Continue still in this so good a mind.—*2 Hen. VI.* IV. 9, 17.
And in a tedious sampler sewed her mind.—*Titus Andron.* II. 4, 39.

These are some of the French words of more frequent occurrence as equivalents for *mind*, but there are a vast number of places in which none of these more obvious ones have been found to fit. In *Lear* I. 3, 15; "whose mind and mine in that are one"; the French is *intention*. In *Coriolanus* I. 1, 175; "With every minute you do change a mind"—the word is *résolution*. In *All's Well* I. 3, 22; "he and his physicians are of a mind"—the word is *d'accord*. In *1 Hen. IV.* II. 4, 114; "I am not yet of Percy's mind"—the word is *caractère*. In *Cymbeline* V. 4, 212; "I would we were all of one mind, and one mind good"—the word is *idée* (sing.). In *Twelfth Night* I. 3, 105; "I am a fellow of the strangest mind"—the word is *idées* (pl.).

In *As You like It* IV. 1, 96; "I would not have my right Rosalind of this mind"—the word is *façon de penser*. In *Much Ado* I. 3, 63; "would the cook were of my mind"—the word is *avis*. In *L.L.L.* IV. 2, 33; "being of an old father's mind"—the word is *sentiment* (sing.). In *Lear* IV. 7, 63; "I fear I am not in my perfect mind"—the word is *sens*. In *Hen. VIII.* II. 4, 34; "Sir, call to mind that I have been your wife"—the word is *souvenir* (subst.), and the German is *erinnert Euch*.

This by no means exhausts, I do not say the number of times the word occurs in Shakespeare, but even the varieties of phrase to which the French translation has recourse. In a large number of instances it is rendered by a verb, as *rappeler à*, to put any one in mind; *songer à*, to have a mind of; *se souvenir de*, to have something in mind; *me le remettre*, to put it in my mind: *nous nous expliquerons*, break our minds at large, *1 Hen. VI.* I. 3, 81: while in the well-known line, "God put it in my mind to take it hence," *2 Hen. IV.* IV. 5, 179, the verb is *inspirer*.

If now we cast our eye back over the past description, we cannot but be struck with the great change in the position of the word since the fourteenth century, when it appeared to Chaucer unfit to represent the Latin *mens* and the Italian *mente*. In Shakespeare we see it ready to make its appearance upon every occasion which touches the inner side of man or of human conduct. The phrases in which it figures are of various kinds, and they have sprung from various sources. It looks as if the exuberance of its flow might betoken the appliance of some fresh impulse, or the withdrawal of some impediment. I apprehend that both had in fact happened;—what the hindrance was has already been surmised: the impulse was certainly nothing else than the enlarged familiarity with the Latin *mens*, and the congeniality of those philosophical writings in which that word so repeatedly presented itself.

But if in the Elizabethan era the word is freely and copiously used, its sense is indefinite. For every phase of thought, feeling, sentiment, opinion, inclination, fancy, temper, humour, disposition;—the word *mind* serves on all occasions to express anything whatever that is of the inner sphere of human nature. It is not exactly that the word is used as a comprehensive word, because all these affections come under one reigning idea; it has not come to this as yet:—but rather, that the word has distanced all its old rivals in its province, and it is now recognised as the current term in vogue for all such phenomena. Like some vague nebulous expanse, it is capable of consolidation, but it is not yet consolidated. Hardly anywhere in Shakespeare, not even in "Whether 'tis nobler in the mind"—has the word arrived at that locality and compactness which is felt in Milton's—"The mind is

its own place". If we compare it with the word Soul, we shall see the difference. The theological term is concentrated, individual, almost personal; and this quality it owes to the bracing effect of its continually standing face to face with its antithesis the Body. The time was come for the Mind as the intellectual region and organ of ideas to win recognition and to be individualised in its turn. The whole upheaval of new thought in the fifteenth and sixteenth centuries was, not less in word than in deed, for the establishment of Mind. The Soul truly was a region and an organ of ideas—where then was the vacant place to be occupied by Mind? We may perhaps put it somewhat as follows: If we take the Good, the Beautiful, and the True as a convenient summary of the chief heads of Ideas, we may say that the Soul's approach was by the way of the Good, and that there had risen up in humanity a fresh demand that the whole province of Thought should be newly explored by the way of the True.

The Middle Ages had entered by inheritance upon the grand possession of Faith and Religion; and they had degenerated from the passion of extending it with love, into the policy of defending it with jealousy. The artistic and poetic faculties had indeed been admitted into fellowship with religion; but philosophy had been timidly watched, sparingly encouraged, and confined to authorised fountains of premisses:—in short, she had been denied her liberty, until that liberty was vindicated (not without blood) by the strong and irrepressible self-assertion of the human Mind.

Theology could not have done without such a term as Soul, nor could the rising Philosophy proceed far on her way without some sharp and succinct expression to represent the inner side of Man, of Nature, and of All Things. The Ionian Anaxagoras had relieved the weight of mystery by his hypothesis of *νόος* as a power independent of matter and guiding its movements; Roman philosophy had resorted to *Mens* for the motive agency in *rerum natura;* these now mingled with English thought, and close at hand was a native English word almost echoing *Mens*, which, though familiar in every mouth, was as yet unattached to any strict function in its province, and the natural consequence was that it gradually came to supply the demand for a term in English which should stand, like *Mens*, as the antithesis and counterpart of Matter.

J. Earle.

II.—THE SUBSTANTIALITY OF LIFE.

I.

It will be my endeavour in the following pages to demonstrate the substantiality of life; to render evident the actual existence of an identical, indivisible, perdurable, and self-sustaining substance, of which the transient phenomena, arising in consciousness, are but inherent affections. I wish, experientially, to reinstate the underlying entity, dissipated by Berkeley and Hume.

I have to set about this ambitious task in a rather humiliating manner, namely, by first assuming everything which I eventually hope to establish. I am, however, determined not to conceal any part of my working-apparatus; and do, therefore, openly presuppose as existing, and ready for action, the entire human individuality with all its faculties, assisted too by every available means of sense-extension.

This express postulation of the whole thing under discussion will probably be considered a *petitio principii* of the most glaring kind. But, without its full admission, I confess I cannot proceed a single step towards my aim. My consolation is, that, in starting with so bold and sweeping an advantage, I am only strictly adhering to the common usage of all sciences. For no philosopher will deny that, in the investigation of even the most elementary physical or mental event, it is always the feeling, thinking, and manipulating human being that constitutes the sole realising agent. Known, or unknown to the observer, it is his own matured sensibility and sentience, that actually furnish the colour and standard of any quality or value, which he may have objectively ascertained.

Indeed, whether we are viewing present phenomena of mechanical impact or chemical activity, or imagining primeval geological evolutions, or forecasting developments of the future, the great postulate, tacitly underlying all our observations and speculations, is the pre-existence and unimpaired efficiency of the complete human individual. These things are so, were so, will be so; but only when realised by beings like ourselves. The nebular hypothesis, the atomic theory, the ultimate chemical element are—as every philosopher is well aware—hypothetical facts conceived in no other form and material than that of specific human feelings, and they can, therefore, be true only when we add: "Thus these legitimately surmised realities would appear to spectators of our kind".

Our organised lives form the broad, steady and indispensable ontological basis of all impressions and ideas, of all actual con-

nexions and fulfilments whatever. We cannot outsoar our nature. We cannot eliminate any part of ourselves. Our whole individuality is present in every inquiry; and it is always some peculiar group of our own aroused faculties that we are contemplating in any kind of investigation.

It is true that in the framing of our metaphysical schemes, we have from time immemorial been striving to transcend the sphere of our personal endowments. But it needs only sufficient candour to become aware that in all these attempts we have merely objectified, as groundwork of our cosmological constructions, sometimes one and sometimes another set of our own vital activities, and have then endeavoured to complete the totality of existence by identifying with this particular portion of ourselves all that was first left behind of our naturally indivisible being. Sometimes the whole, and sometimes only a part, of our sensations are thus hypostatised as primordial elements of the entire universe. At other times, it is the thinking or reasoning energy that is made to account for everything. Then the will. Then some special emotional affection. Or, again, a potentiality of all these subjective factors. Never anything but detached faculties of our own being, and with no other result than the transfiguration of the cosmos into a distortedly projected semblance of our personal abilities.

Philosophical systems become very transparent when viewed from this organic standpoint. As authority or custom may happen to incline us, we play fast and loose with the various potentialities of our organisation, extolling and depreciating them in turns. A special importance and dignity, however, necessarily attaches to that portion of our nature, which is conceived as the causative source of the rest. Therefrom the whole conduct of life receives its characteristic tinge. For it will not fail essentially to influence the bent of our strivings, whether we attribute effective priority and controlling supremacy to the senses or to the intellect, to the sensualised or to the intellectualised appetites. A system of ethics can be scientifically grounded only on a correct knowledge of vitality. With what uncertain feelings of propriety has humanity been wavering between the extremes of organised capacities, now for a little while getting into the wholesome and fruitful mean, and then again consuming itself in wasteful lust, or stagnating in sterile precepts!

Considering then, that the earnestness of our aims will always be directed towards the fostering of what we believe to be the embodiment of the truest potent reality, would it not be wise, once for all, ungrudgingly to acknowledge the position actually occupied in nature by the complete and indivisible human or-

ganisation? For, is not this individual and monadic totality, in fact, everywhere the really substantiating agent, the creative power whose subtle and intricate modes of normal reaction constitute the whole universe of experience called nature? And is not at all times the value of any other thing rigorously determined in every respect by the actual efficiency of the appreciating agent, by his realising qualifications then and there?

The individual human organisation forms, indeed, the actual incorporation and potential medium of all fulfilment. Whenever this truth becomes adequately established and understood, it will impart an incalculable impetus to existence, will bring designedly about, "whereof our nerves are scant," "more life and fuller". For, to recognise how in our transitory frame, by means immeasurably transcending the reach of personal volition, there has become embodied the life-worthiness of the illimitable past, is to receive the wealth of our being as a sacred trust, and to own a binding mission to labour for a progressive future.

But it is easy to profess a faith, hard to give it a solid foundation. The philosophical arbitrariness of thus dogmatically constituting ourselves the pre-endowed and realising centre of the world, lies, on the one hand, in the difficulty of accounting under this assumption for our own origin and development, on the other hand, in the difficulty of reaching, from such a focal position of mere subjective consistency, any kind of reality outside our own mind.

It must, however, be remembered that these two perplexities have irrepressibly confronted systematic thought, from whatever side it may have attempted to assimilate nature. The former difficulty has generally been allayed by traditional beliefs or hap-hazard conjectures. The latter has formed the main puzzle and theme of philosophy ever since Parmenides and Zeno first directed the attention of thinkers to the strange incongruity obtaining between the ideally completed world permanently resting in mind, and the fragmentary world transiently and incoherently figured by the senses.

Meditative reflection necessarily leads to the discovery of a disposition of ideas ever tending towards all-embracing unity and repose. Direct observation, on the contrary, is beset by a rush of phenomena ever moving through inexhaustible kaleidoscopic constellations.

In the world of thought-conception, the fundamental relation between ideas appears to be one of graduated co-inherence, of involuted union; any detached notion forming an integral part of a pre-existing and wider totality. In the world of sense-perception the fundamental relation between phenomena seems

to be one of more or less orderly sequence and change, a regulated passage from one state into another.

In the realm of ideal or logical subsistence, things are, even through discursive reasoning, more and more adequately recognised to be what they are for all times. In the realm of physical or phenomenal display, existences are perceived continually to cease to be what they were, and to become something entirely different.

To which of the two orders then belongs genuine reality? To the ideal, to the physical, or to both? And how are these so disparate, and yet so intimately interblending worlds to be reconciled, to be comprehended as co-operant parts of one and the same totality?

This is the great dilemma of the immutable and the flowing order that has perplexed philosophers for more than 2000 years, and we also, in spite of so many baffled attempts, are still persevering in the endeavour to gain access to the secret. From "ideal realism," *i.e.*, the projection into transindividual and autonomous existence of the logical order, to "empirical realism," *i.e.*, the projection into transindividual and autonomous existence of the physical order, every imaginable combination has been essayed. But, however contradictory to each other these sundry philosophical constructions may be, they have one and all received their cue in direct continuity from the Eleatic antinomy. This one idealistic *aperçu* has undeniably formed the fertile source of all our systems. The atomic systems, the sceptical systems, the Socratic systems of antiquity avowedly take their rise from this same unquenchable fountain-head of doubt. And it would be unpardonable in us who owe to ancient Greece almost our entire culture, not generously to acknowledge also the philosophical inheritance which it has bequeathed to us, and which it seems to me we have not yet succeeded in very essentially improving.

Is not the problem of the relation and intercommunication of the thinking and the extended substance, of the intelligible and the sensible world, which has formed the subject-matter of philosophy since Descartes, merely a revival of essentially the same puzzle concerning reality? Even the Critical Philosophy, with its copious appliances and minute distinctions, has it not after all only elaborately fortified the Eleatic position by deepening the gulf between the foreign influences underlying the chaos of appearances arising within our sensibility, and the transcendental subsistence of their conceptual transfigurations? Kant's great effort to reconcile through reason the intelligible and the sensible world has proved a failure like all former attempts. In the system of

critical idealism, the conceptual order mentally fashioned and qualified resides as infallible actuality, as ideal and undeviating object, in a general superindividual consciousness. But where, on the other hand, do we find sustained the reality of the affecting powers, of the things outside consciousness? What can it avail passionately to denounce as mystical and fantastic previous forms of idealism, and peremptorily to decree by dint of reason the existence and efficiency of an outside world, when there is no imaginable way left open by which external influences can at all specifically qualify the passive and empty forms of sensibility—pure ideal time and space? And, besides, if the influences that are admitted somehow nevertheless to affect our sensibility are actually things-in-themselves, and if our intelligible Ego also belongs to that order; then, as all spontaneous and synthetical activity emanates from the intelligible Ego, is it not likely that under such conditions reason would indeed recognise the transcendent nature of things-in-themselves, would reconstruct from the incoherent data given to sensibility, by force of its own transcendently derived faculties, the eternal aspect of the intelligible world?

The transcendent oneness of subject and object, the identity of thought and being involving the existence and supreme reality of an absolute substance—the very doctrine enunciated by the Eleatic sages—certainly constitutes one of the only two philosophical positions that can at all be consistently occupied. Transcendentalism in any of its forms necessarily leads to this consummation.

But, before indulging in extreme prospective fulfilments we have first of all scientifically to secure a path that will not lead us astray in our search after true existence.

Starting then, as we anyhow must, from our own individuality, we find that, within us, by dint of the secret powers of our nature, there arises a series of phenomena, a complex phantasmagoria of things and events, in every respect the creation of those intrinsic powers. Nevertheless, in certain aspects, these mental phenomena seem most obviously to represent existences and occurrences, having subsistence in a region not occupied and governed by our own being. The problem, the supreme problem of the theory of knowledge, is either to prove that the reality of the world, which appears to subsist outside consciousness, is altogether an illusion; or, accurately, to demonstrate the mode of inter-dependence and inter-communication, unifying not only the two seemingly heterogeneous spheres of mind itself, but unifying, moreover, the powers inherent in mind with the forces extrinsically influencing the same.

It is a plain and incontestable truth, that all we know, and

all we can know, of things is simply what may become revealed of them vicariously and sympathetically as affections of our own being. Our own sensibility is the foundation of all our supposed knowledge of an external world, and our consciousness can be composed of nothing but our own feelings. It is therefore quite clear that conscious sensations can only result from the action of powers already belonging to ourselves, already forming part of our constituted individuality. Thus the whole universe, of which we become aware, resolves itself into a congeries of subjectively sustained and combined ideal states. It forms a creation in mind, mysteriously accomplished and upheld. And, however fleeting in all its time-manifestations, it nevertheless symbolises some enduring presence. What then can be the true nature of the comprising and sustaining something, fragmentarily revealed in the desultory flashes of conscious life?

We cannot wonder at the suasion of logical conceptions, at the preponderance and supreme reality so often and so emphatically assigned to the ideal world, when we consider that all qualities predicated of any subject whatever are always recollected as an incorporated part of our mental being, and are, moreover, on due consideration, found to form, from the very beginning, a subjective group of affections, momentarily singled out from the boundless possessions of ideality, and somehow projected and consolidated into the semblance of outside subsistence. Intrinsically and ideally are shaped, qualified, discriminated, and unified all phenomena, all influences that affect the senses, that outwardly or inwardly modify sensibility.

It cannot be denied that, when thus realised in its inclusive or ratiocinative aspect, the universe, established in mind, opens to the reflecting subject an insight into an organic enchainment and essential communion of all phenomenal affections. Deep inwardly beyond the fretted screen of temporal occurrences are truly recognised the eternal ideas that sustain the scattered and perishable manifold. And it would be strange, indeed, if the fervent soul, exulting in this inalienable wealth of widest thought and emotion, were not to feel the limitations of its own individuality melting into infinity; if its whole being, amplified and completed, did not seem in blissful consummation to be merging into the One-and-All.

But, on the other side, in their perceptual or phenomenal aspect, the contents of mind do not reveal themselves as co-inhering in one and the same indivisible and identical substratum of thought. On the contrary, thus viewed, ideas seem merely to constitute more or less collective remembrances of previous experience. They are, in fact, recognised as only *re*presenting groups of concrete sensations, held together by similarities ob-

taining between them, and they are found to be associated with each other by laws that originate in the phenomenal order, *i.e.*, in the coexistence and sequence of experienced affections. Our consciousness then discloses itself, as composed of nothing but the orderly appearance and reappearance of sensations and perceptions, inscrutably arising and incomprehensibly vanishing.

We have, no doubt, to admit a centripetal as well as a centrifugal view of nature. How are these two opposite orders connected with each other?

It is true, whatever way we may be looking, sound reasoning ends in shutting us up irresistibly and most thoroughly within the magic circle of our solitary mental subject. Nothing from outside can in its own essence and likeness penetrate this total isolation, or coerce to foreign modes of action the intrinsic proclivities of so private and specific an autonomy. But, even then, without the least direct reference to external influences, what a contrast between the two poles, or rather between the central and the peripheral capacities of our mental being! What divergent revelations of ideal reality are inevitably forced upon us by a mere change in the adjustment of our mental vision! By fixing our attention exclusively on the conceptual or central order we consistently become transcendentalists. I do not mean transcendentalists of the compromising or critical kind, but genuine transcendentalists, beholding the transphenomenal essence of things, the everlasting glory of archetypal being. By restricting our view to the perceptual or peripheral order we inextricably become sensational empiricists, receiving all our grounding knowledge in the form of sense-impressions, and being compelled, therefore, to adopt nominalistic idealism in which everything is phenomenal and evanescent.

In this idealistic dilemma, one question is uppermost with our practical sense: "In which direction may we eventually hope to burst through the secluding spell which wholly encompasses our individual microcosm?" Will it be through its centrifugal or through its centripetal activity that our mind will succeed in rationally establishing vital and fertile relations with the macrocosm of Otherness, with the great universe of non-coinciding actualities? We desire, designedly and unreservedly to open our being either to the central or to the peripheral influx—whichever way the creative tide may flood our existence with higher life.

However legitimately our reason may seem to imprison us within the narrow confines of pure individual idealism, our strongest instincts carry with them the conviction of outside powers influencing us all round. Our whole active nature, our emotional and our volitional propensities revolt against the dreamy

and illusionary self-seclusion imposed upon us by ratiocination. Irresistibly impelled, we rush out of self to grasp realities beyond. Our most urgent needs, and our most exalted desires, alike leap the bounds of self-sufficiency. Not only our immediate appetites crave appeasement through the appropriation of externalities, but our tenderest sympathies hasten to bestow on other lives the most precious and ideal worth of our own being, and our loftiest pleasures make us zealous to mould foreign existences into the perfect shape of ideal purpose.

Nevertheless, in thus attributing actuality to relations that common-sense unhesitatingly believes to subsist between ourselves and an outside nature, we are evidently altogether transgressing our power of rationally dealing with the data of consciousness. For, how can our reason, a pure mental faculty, under any solicitation whatever, be rendered competent to transplant subjectively inherent ideas into a foreign region of altruistic subsistence, whereby they become elevated to the transcendent dignity of self-consistent realities ? This, however, is exactly the licence we have been indulging in, when we allowed our instinctive or conscious promptings to overreach the spell-bound circle of subjective idealism. For this purpose we had to assume as existent, on the one side, a bodily organisation or executive apparatus governed by our mind, but by no means coinciding with the same in its reality ; on the other side, we had to postulate independent external existences in efficient interaction with ourselves. All these realistic feats were, no doubt, most fluently accomplished by us. But we shall have to admit that their philosophical justification remains to the present day the great unrealised desideratum of the theory of knowledge. Theoretically, we still find ourselves locked up within a sphere of dreamlike apparitions, which we call our mind, and now the puzzle is how, conformably to reason, to win our way back again, not only to the things beyond our skin, but also to the special vital appurtenances contained within that bodily envelope.

The fact is, we are psychologically debarred from the access to any pathway leading to outside existences. Our mind cannot go out of itself to meet other things and to blend with them, nor is it anywhere open to the entry of foreign beings.

We have once for all to put up with this fundamental truth. It can never be subverted. But examining the aspect of ideal nature yielded on the one side by the logical, on the other side by the phenomenal propensities of our mind, we discover in both these orders certain definite voids created by unsatisfied relational implications, which implications are distinctly connected with the positive properties of mental occurrences as such. Here it is above all the evident orderliness, manifesting itself in

the combination of ideas that seems to imply something extraneous to mind, coercing single mental states into coherent and consistent connexions. First, there is thus suggested some substratum supporting and perpetuating for reproduction the successive mental states. And then, as we do not find anything in mind itself to account for the coalescing of its disparate moments into specific configurations following each other in regulated sequence, we are induced to infer an influence of some kind controlling this grouping operation. Moreover, the ideal order thus compelled seems to subserve purposes transcending purely ideal capacities. Somehow, namely, we have ourselves the power of imposing permanent changes on the coalesced appearances or perceptions, which changes evince themselves thereafter as forming part of the mind-compelling influences. For instance, I feel coerced to realise the definite and complex mental state which I call a sheet of paper. By the exertion of certain activities within my power I now change the appearance of this sheet of paper so that it consists of ten pieces instead of only one. Henceforth, this transformation does constitute part of the mind-compelling order. I shall be forced to perceive ten pieces whether I wish it or not.

It is true I become aware of all this solely through the medium of subjective feelings, but some hypothesis has to be framed to account for the fact of compulsion, which fact cannot be included in the operations performed by the mind's own spontaneity. We give expression to this experience of outside compulsion by assuming causative agents as instigators of our compelled mental states. We know positively only the latter, but infer therefrom the existence and efficiency of the former. Physical forces or energies are nothing but such hypostatised or substantiated causes of compelled mental states, and the science of externalities consists in the construction of an hypothesis of energies that will adequately explain the facts and relations of the peculiar order of phenomena, apparently derivable from direct sense-stimulation.

It will, however, be best frankly and distinctly to avow that we do not possess within our purely mental constitution any rational premisses from which could be deduced the seat and nature of the compelling influences. The supposition of powers outside our individual minds will ever form the standing desideratum of belief and knowledge, without which not a single scientific or practical step can be taken, and which has on each special occasion to be made good by prompt hypothetical assumption. All activities of our nature are moulded on this transindividual supposition, and receive their cue from it. But, as regards the special conceptual framing of the hypothesis, the

sole guarantee of its correctness can only be afforded by the adequacy of the conception to account for all facts and relations of the so-called outside world.

Thus it happens that the following question has played a great part in philosophy, and still continues to arise: Is our mental being centrally or peripherically coerced? Does the compelling influence work centrifugally or centripetally? From intellectual emotion to thought and sense, or from sense to thought and intellectual emotion? It is of supreme practical importance that this query should be decisively answered. Which of the two chief assumptions can best explain the scheme of nature: the transcendental or the experiential hypothesis; the central or the peripheral influx?

II.

Leaving out of sight the relation of sensations to the surmised extraneous source of their excitation, and taking the immediate and elementary affections of the mind as simply given, the main problem of philosophy, since Locke, has been that of the synthesis of sensations and perceptions.

Sensations, as such, are experienced singly and unconnectedly yet in consciousness they are found coalesced with a number of other remembered sensations into distinct percepts. A percept is an integrated assemblage of present feelings, an individualised set of impressions and ideas; yet, discrete as these mental objects seem to be, they are found conjoined with each other so as to form, not only a coherent totality of configuration, but also an endless train of regulated sequence. Whence this correlative union and orderly procession? In the concrete appearances themselves there is evidently nothing discernible that could in any way account for their definite disposition and connexion. Therefore, somewhere in the hidden recesses of the manifesting structure, there must reside a power, which coerces the unconsolidated and successive manifold of sense into a well-regulated system of conscious appearances. The question is: In what manner, and in which of the provinces of the feeling, thinking and willing mind is this synthetic power exerted?

"No connexions among distinct existences (impressions or perceptions) are ever discoverable by human understanding. We only *feel* a connexion," says Hume.

"As a connexion does not impress our senses, but has to be made by ourselves, it does not belong to the receptivity of the subject, but to the spontaneity of the understanding, of which it is a function *a priori*," says Kant.

The antagonism of our two leading philosophies is tersely

expressed in these most contrary opinions regarding mental synthesis. According to Hume, our judgments about the conjunction of phenomena are based on an association of impressions and ideas established, and at last rendered indissoluble by custom. The inference, *i.e.*, the mental transition from a present impression to the idea of its cause or effect, is an action, not executed by reason, not accomplished by an original energy of the understanding, but wholly impelled by experience. Because two definite impressions have often been experienced in immediate sequence, therefore the presence of one of the impressions irresistibly calls forth the remembered idea of the other impression, and this automatic association is under such circumstances furthermore accompanied by a peculiar sentiment, which assures us of the reality, or objective validity of the connexion, making it appropriate and safe for us to act upon the ideal suggestion.

The strength of this view lies in the demonstration of the fact, that inferences concerning the actual connexions of phenomena are derived from experience, and that they take place in the sensible sphere of the mind, take place there with an energy independent of the promptings of abstract thought and deliberate volition. Direct judgments about matter-of-fact, genuine synthetical judgments, which declare that because a certain something is present another certain something is also present, or because a certain something has just happened, another certain something has also happened or is about to happen,—such immediate conclusions concerning reality are altogether experiential in their origin, and occur under the sway of a present impression as automatic and sense-derived mental manifestations. It has become more and more certain, since this novel discovery of a whole world of unreasoned conclusions, that judging-operations of this kind, unconsciously performed within the domain of perception, constitute indeed the very groundwork of our natural relations and practical doings. Thus far we are undoubtedly conscious automata, and we cannot help suspecting, that some kind of organic constitution must be at the bottom of this fundamental process of organic inference, or mental reflex-action.

The chief shortcomings of Hume's Association-hypothesis consist: (1) in the omission of an explanation why the ideas so necessarily connected with their suggesting impressions are themselves moreover truly realisable in nature as actual sensations—why the heat, suggested merely as idea by the flame, can also then and there be made good as an impression; (2) in the complete ignoring of any synthetical medium, and of any synthetising power.

The former shortcoming is intentional. Hume deliberately refused to account for the origin of impressions, and had consequently to avoid any allusion to the correspondence of the causally suggested ideas with their realising sensations. This is, however, just the point in causation most difficult to explain, and upon which the relation essentially turns. We are most anxious to learn how this consummation of matter-of-fact inference takes place; how the right sensation or impression comes to fit in at the right moment; how, for instance, the actual heat of the flame happens to be there to make good its suggested idea. This is a problem for the bare insight into which the 18th century was not yet ripe. It can be scientifically solved only with the help of the hypothesis of connatural evolution, a hypothesis which we shall have occasion to consider when its bearings on causation have to be discussed.

The other shortcoming of Hume's philosophy, or rather its creation of an absolute void beyond consciousness, is a necessary consequence of its premisses. Starting with nothing but single and elementary impressions, and their fainter copies, the ideas, it was impossible for experience, with only such clear-cut constituent pieces, to put together anything but a mosaic mind, a mind composed merely of clusters of elements. Of course, this aggregational compounding of our conscious existence was not quite ingenuously feasible. Memory and Association, though only manifest in their concrete results, had nevertheless to be indirectly recognised as forming part of the mental mechanism. Custom could not operate on nothing. In order to establish its connexions it had to work on the same secret resources that originally and spontaneously furnished the copies of impressions, and it had to work also on the hidden spring of ideal transition or inference. But, notwithstanding this surreptitious drawing on Memory and Relativeness, we have to admit that, in consciousness itself, the reproductions and associations are found accomplished without our becoming in the least aware of the means which have brought about these complex and flowing results. Here then, we have a clear exhibition of unconscious powers producing conscious effects, and we may once more parenthetically remark that it lies near to suspect organic foundations for the automatic processes evincing themselves as memory and association.

With Kant, mental synthesis is a subjective operation, intrinsically initiated, directed and executed. According to him, the coherency and order of phenomena are wholly due to original faculties of the mind. It is true, he peremptorily maintains that these *a priori* faculties are exerted only on material impressed on our sensibility. But he allows nothing

actual in the sense-material to affect, in any way, its subsequent synthesis. From somewhere, empirical stuff is kaleidoscopically received in the passive forms of sensibility, making up there a contiguous, but utterly unobjectified manifold. Thereupon synthesis begins. First the raw-material is congruously sorted and loosely connected. Then it is objectively and conceptually cemented together for good. All this is done by a certain spontaneous activity, emanating from our innermost being, the identical Ego, and differing *toto genere* from sensibility. This identical Ego, to which all synthetical processes refer, and without which the confused sense-material would ever remain unshaped, uncombined, unrelated and unconceived, is not itself phenomenally manifest, but belongs to the intelligible world. Its inalienable powers, however, evince themselves as functions *a priori* in the various modes of conjunction, through which the phenomenal world receives its universally valid coherence and unity.

The strength of this view lies in the recognition of a unitary system of innate synthetical powers, through which the particularly and severally experienced sense-affections receive their general relational significance.

The chief failings of the view are: (1) its non-appreciation of the actual correspondence, uninterruptedly subsisting between the ideally connected order, and its realisable sense-affirmations: (2) its non-acquaintance with the conspicuous sphere of automatic sense-judgments or percepts.

Thus, the Aggregation-theory of mental composition fails to recognise a primordial medium, in which connexions are actually established, and in which they then potentially subsist. The Transcendental theory of phenomenal coherence mistakes the conception and naming of combining processes for the actual powers that in reality unconsciously accomplish the conceived synthetical results.

Evidently, there lies somewhere, within the compass of nature, a fixed range of unremitting and controlling activity, from whose solid industry the orderly manifold of consciousness emerges ready-made, and to whose steadfast toil and safe-keeping the whole constancy and communion of the phenomenal world rests entrusted. It is plain, however, that the facts of individual consciousness do not themselves disclose the quickening source whence they spring. We have here nothing but a succession of distinct conscious states, nothing but a mere outflow of ever so many single feelings and thoughts. Something, nevertheless, there needs must be beyond this bare sequence of mental components, something harbouring them all, and persisting inexhaustibly one and the same. The countless changing and

passing states of consciousness obviously issue from some unperishing matrix, and there subsists some binding, living constitution, in which synthetical results, once achieved, thereafter safely and retrievably abide.

But where are we to seek for such a substantial entity?

Students of philosophy, who have earnestly pondered over the great theme of the synthesis of mental constituents, will have found every aspect of the question deepen into a still more fundamental problem.

Sensations and thoughts, the sole agents through which existences are revealed to us, are themselves ephemeral effluences, arising momentarily and as suddenly vanishing. How then can anything more enduring than a single sensation or a single thought become part of our consciousness? How can that, which is permanent in nature, be in any way manifested by that which is only a perishing semblance?

To gain an approach to this chief enigma of philosophy, we will first explore it in its least complicated presentation. The most immediate and elementary fact of consciousness is undoubtedly that which is called a sensation or impression. So many aerial beats, for instance, strike the tympanum in a second, and give rise to a corresponding multiplicity of vital beats in the auditory tract. It is certain that the sensory impulse received and vitally responded to, consists of numerically discrete units of action, of which, moreover, each ceases to be, as soon as its successor becomes present; now, notwithstanding this serial ingress of non-adhesive and momentarily perishing shocks, the sensory result appears in consciousness as a synthetised, homogeneous, and enduring whole, as one single coherent impression.

I venture to say that this simple statement contains as much unsolved mystery, as may well be condensed into any problem. Indeed, we need only find the true explanation of this one elementary mental occurrence, and with it would be opened to us the most profound secret of mind; for it is obvious that the very life-spring of memory and personal identity is involved in its solution. We should then know, how the unity of our being is maintained amidst its multitudinous affections, and how these relational affections are substantially preserved, in spite of their phenomenal or conscious evanescence.

Time, and everything in it, reveals itself as made up of consecutive moments, each preceding instant lapsing into nothingness at the birth of the next. To our conception time seems ever fleeting away as irrecoverable, past, ever sliding out of sight into the illimitable vacancy of that which is no more, and sinking along with it all its weight of conscious wealth.

Sorrows and joys, sensations, thoughts and actions, no sooner are they realised than they are pushed out of the way again, to be followed by others, in new succession. Yesterday has run out never more to return, and all that is thus passed, is gone by for good.

What magic power is it then, that, nevertheless, contrives to save the complete and intricate fabric of our mind from the nihilistic perils of these its timely wanings, that even succeeds in turning its irrecoverable losses to permanent gain ?

Here we find ourselves inevitably brought face to face with this most solemn question concerning the nature of our innermost being. Shall we continue to evade with easy and empty phrases the stern meaning and relentless admonitions implied in its actual manifestations ? Shall we conceal from ourselves the true mission of our lives, which is not to swoon back into the pristine bliss of all-comprehensive being, but laboriously to uplift higher still the now precious, pain-wrought inheritance that actually is ours ?

Not that the wondrous sphere of ideality is at all to be denied. There exists in all truth as a firm reality, and not merely as an illusive fancy the veritably ideal. But surely its world-embracing picturings are not woven of hyperworldly preconcerted thought, but of thought cosmically, slowly, solidly concerted from the first responsive quivering of blind life to its loftiest visions of sympathy and beauty. Thought is the bloom, the sublimation of life, not its fount and origin. And life itself does not scatter and darken the luminousness of transcendent thinking, but irradiates with revealing brightness the concentrated influences of dark and thoughtless things.

The two great cosmological conceptions, which are now struggling against each other for supremacy in human consciousness involve inevitably as ultimate result the decision : Whether life be indeed a deplorable aberration from the original fulness of thought-steeped being ; or whether it be rather a desirable unfolding of more and more intense and ample world-consciousness.

The question here immediately at issue is : How from the conscious outflow of particular feelings and thoughts can the nature of their common source be inferred ?

We find a very remarkable concurrence of the opinions of our two standard philosophers, with regard to this recondite problem of personal identity or individual substantiality. They both emphatically declare the impossibility of forming a philosophical conception of it.

Hume without much ado roundly asserts : " We have no idea of external substance, distinct from the ideas of particular

qualities, nor have we a notion of mind, distinct from the particular perceptions." This is plain and just reasoning for one who looks upon perceptions as "distinct and independent existences," and for whom mind, therefore, can mean only an aggregate of such perceptions, or indeed, not even that much.

But Kant, to whom, on the contrary, perceptions (in Hume's sense of the term) are nothing but indistinct and dependent appearances, and to whom, above all, the unity of consciousness is an undoubted and supreme fact, how is it that, with such diametrically opposite views, he nevertheless fully corroborates the experiential doctrine, that we know only mental states and that mind as a substance is not cognisable?

Kant also finds, as the result of his profound introspective research, that "when I enter most intimately into what I call *myself*, I always stumble on some particular perception or other". When I eliminate all attributes, that which I deem substantial remains unknown. Our reason is discursive, and thinks only in predicates, consequently we can never through reason reach the ultimate subject of all these predicates. The true Ego is only a sentiment accompanying all conceptions, but it can never become a conception itself. The Ego which we know is only empirical, is altogether made up of particulars. In time, in the "inner sense," nothing enduring is found, nothing, therefore, which could at all justify us in substantiating a thinking entity. The intelligible, identical Ego, which constitutes the unity of consciousness, must ever remain unrecognised, for it can never itself become an appearance, and it is only appearances that can be grasped with our understanding. Of course, it very readily occurs that the unity, apprehended in the synthesis of thoughts, is taken for a unity actually perceived, actually appearing. This, however, is a mistake, which may be called the "surreption of the hypostatised consciousness," a mistake which is at the bottom of all rational psychology, of all psychology which professes to derive its doctrines from data not experiential.

This is the deliberate confession of the most scrupulous and also one of the most penetrating of philosophers; one who in his ripe age—after a life of preparative meditation—had set himself to establish transcendentalism on an irrefragable basis. First, he believed a few months would suffice for the task, for he was already in possession of the entire groundwork of his system. But eleven long years of concentrated contemplation elapsed before he had accomplished the work to his own satisfaction. He then felt bound most impressively to warn all thinkers that no legitimate way can be discovered by which we are allowed understandingly to pierce beyond what is given in

experience, and that in experience only the synthetised manifold of sense is found. "Noumenorum non datur scientia".

What then is to be done? Is there, indeed, no method left by which we may, nevertheless, secure some cognisable foundation on which efficiently to ground the phenomenal display of the perishable manifold? Are we, in all reality, irremediably condemned to remain for ever utterly ignorant concerning that which gives unity and consistency to our being, and therewith unity and consistency also to the rest of the perceived and conceived universe?

It behoves us most carefully to consider this critical position, and to follow therein indications of natural truth with no less conscientious awe than Kant himself.

Hume and Kant are right. Self-consciousness does not afford us any knowledge of personal identity. Introspection does not teach us in what manner the manifold of experience is inhering in a substantial Ego; does not make clear how it is that all predicates refer to an ultimate subject; how it happens that time, carrying away our feelings and thoughts, does nevertheless not rob us of our mental possessions; how, on the contrary, these become the firmer rooted the more lavishly we dispose of them.

To escape from hopeless scepticism, it will be appropriate to remember here the fundamental hypothesis of all knowledge, the hypothesis connaturally preconcerted, and everywhere desiderated in experience, therefore also unhesitatingly adopted by instinctive and practical life. This hypothesis consists in the hypostatising of definite causes or forces outside consciousness in correspondence with the definite impressions and perceptions inside consciousness. All science of existences over and above the appearance of our own mental states is based on this one supposition. Consequently the question now before us may, from this point of view, be thus expressed: Can the substance in which mental affections inhere, become an object, an appearance to an observing mind? Can it be viewed, by dint of conscious states, as an outside existence? If so, then a science of it can properly be framed in the same manner as all other sciences are framed. In other words: The unknown confluence of powers, which constitutes a person or individual, can it affect our sensibility in such a manner as may enable us through definitely occurring and varying modes of this our sensibility to recognise—just as we recognise any other thing or event—the secret giving substantiality to a person or individual thus observed?

It is undeniable that the something, to whose being we are ascribing individuality, impresses most intricately, delicately and specifically our senses, appears within our sensibility a

complete and complex unity of conformations and features, being thus perceived by us with surpassing distinctiveness and precision. A strange perversity of thought has hitherto marred the transcendent glory of this inscrutable mystery of sympathetic revelation. By affixing opprobrious names to it, calling it "perishable and corruptible body," or "senseless and inert matter," prejudice has succeeded in vilifying that which in the whole range of our experience is pre-eminently psychical: an abiding entity fixedly mirrored in mind on the sensitive foil of its transitory feelings.

This phenomenal presence, or bodily appearance, attests indeed a most miraculous display of constancy, affinity and intelligibility. In the depths of my own being I find steadfastly subsisting the full symbol of another existence, whose proper constitution and intrinsic essence ever evades my reach. But lo! in spite of all this exteriorising and excluding otherness, we are not foreign to each other in our innermost natures; for I, who am now so definitely and intimately affected by your actuality, do possess on my part the secret virtue of likewise impressing your being with a similar fulness of sympathetic recognition, becoming to it an understood and reliable presence.

When we turn from the contemplation of that part of our personality which we find generalised from the experience of conscious states as such, and which we call our mind, to the contemplation of an outside personality as revealed to us through the medium of our senses, we are struck with the infinitely diversified and elaborate contrivances which here evidently concur in the constitution of such a personal or individual unit. Though we recognise this only symbolically in modes of our own consciousness, still we may rest assured that a corresponding intricacy of constitution belongs irrelatively to the nature of the personality affecting us. Whatever personality may be in its own self, independently of our viewing it, it must necessarily be something at least as complex as the organisation by which its existence attests itself in our minds. Therefore, whatever this perceived organisation discloses to us, we may with perfect confidence symbolically attribute to personality as such, for it necessarily corresponds to some trait in its affecting or stimulating power.

It is this exquisitely attuned connatural parallelism of stimulated and stimulating states which renders science or knowledge of any kind possible. The appearances in space and time are specifically stimulated affections. Let the regulating rhythm in the stimulations be subverted, and all knowledge is at an end. We have then only delirious exhibitions continuing

so long as the intrinsic capacity of the organic structure is not exhausted.

Through the study of organisation we discover that consciousness accompanies only the functions of the highest, most concentrative, and therefore, most central parts of the organic individual; that, however, the remotest details of its constitution all contribute towards this structurally centralised and functionally centralising consummation of its personal unity. And we find, moreover, that this intrinsic consummation of organic forces is destined to become at last effective in extrinsic results, through the instrumentality of the volitional or executive part of personality. In truth, we discover that we have a wonderfully more complicated and extensive consistence than we are immediately conscious of; but that fortunately this deficiency in the general subjective feeling of ourselves can be remedied by objective study.

The special information which we are now desirous to obtain, is: Whether, among the symbolic occurrences of organisation, there can be detected any clue to the secret of personal identity or individual substantiality, a secret which, as all thinkers know, will not yield to purely introspective research.

We learn, as an indubitable fact of organisation, that every functioning portion of an organism accomplishes its task only by losing some integrant part of its substance, by parting with some constituent elements of its molecular constitution. It is clear that this mutilation would infallibly incapacitate it for a renewed functional effort equal to the first if some provision were not made for the complete restitution of its functioning substance. A sensory nerve, for instance, after a single responsive beat could not be in a condition adequately to respond to a second beat, if its functionally deteriorated substance had not been meanwhile promptly restored to its full integrity. If all the auditory pulses which go to make up a certain homogeneous sound, were not received and transmitted with equal responsive energy, the quality of the resulting sound could not possibly appear homogeneous. If, on placing one's finger upon something which awakens in the mind the sensation of specific touch, the functioning substance of the affected nerves suffered disintegration without adequate reintegration, then it is certain that no two moments in the sensation would be alike.

Identity of function necessarily presupposes identity of functioning substance. It is an unquestionable fact that a substance in functioning undergoes disintegration. Consequently, it is equally unquestionable that identity, manifested in two consecutive moments of any kind of organic function, must be due to the reconstitution of the functioning substance.

What is thus true of the many relationally functioning parts of an organism, must be true of the organism as a whole. If inequalities in the constitution of the entire organic unit, arising from excess of function of one or other of its organs were not duly equalised through correlative reconstitution, then identity of such an organic unit would be out of the question. The central changes wrought by the irruption of continually varying combinations of peripherically stimulated function would soon completely transform the structure of the central substance, in case the organic unit had not the power of renovating itself as a whole. What would become of the vaunted stability of the world of thought, if the random intrusion of phenomenal disturbances could permanently upset the perennial, the change-conquering equilibrium of the central substance, or rather of the complete monadic individual in whose unity and indiscerptibility the soundness of our mind and body safely reposes ?

We feel, let us say, thoroughly tired out. The agitating appearances of the bright day have seemingly obliterated our previous store of confirmed knowledge. We search in vain within our exhausted mind for what we used readily to find there. Our will is impotent to summon up its legions of vassal thoughts. Our inner eye strays over emptiness. Let us then no longer wilfully resist, but fully and trustily yield ourselves up to nature. Softly and securely she closes all inlets of rousing impressions, withdraws the hum and stir of foreign presences, steeps our whole being in darkness and oblivion. And now, from out the unconscious depths of vital constructiveness our existence is made whole again, our lost possessions reinstated. We are, once more, ourselves, organically reconstituted, awakening to renewed activity, prescient bearers of all the guiding Past.

The philosophical import of these organic facts cannot be mistaken. Our personality is identical amidst its multifarious modes of functional yielding, only because its unity and integrity is adequately maintained by means of reconstitution. And it remains identical only in so far as such rehabilitation to complete structural identity actually takes place. This perfect state of substantial identity is however, fortunately, only approximately, and never fully attained. Adequately realised, it would at once put an end to all development, would produce an undeviating sameness of vital states, without individual growth, and without generical evolution. There can be distinctly traced, within the scope of individual life, a progressive cycle of anti-identical modifications. The natural growth of a being involves a constant deviation from its personal identity. It leads through pre-established stages of evolution to generical maturity, a condition of existence, in which the growing person has reached a

higher, a transindividual identity with the culminating status of its kind. This identity of adult beings of the same species is again only approximate. If in individual growth it regularly happens that personal identity is made to diverge from uniformity through generical influences, it also happens that the individual has in its turn the power of effecting changes in the identity of the genus. Simultaneously with growth, there occur further deviations from personal identity, caused by the acquisition of individual experience. Excellences of any kind, thus acquired, over and above those already organically embodied in the constitution of the genus, go, through transmission, to heighten the generical standard.

The identity, which we find manifested in vitality, is kept in this manner everywhere flowing and progressive, but it is an essential identity nevertheless, an identity so indispensable to life, that upon its strict conservation depends wholly, not only the consistency of our own personality, but also the appearance and order of the entire universe, as known to us.

Personal identity is grounded in an order of efficiency unthinkably more unfathomable than any thought of ours, than any kind of intelligibly discernible potentiality; unthinkably more substantial than anything found in conceptional revelation. It is perpetual experience, immemorial memory incorporated, systematised, and ever organically resuscitated.

For those, who can find no commensurable transition from their subjective feelings of mental mobility and subtlety to their objective feelings of organic stability and solidity, it may prove serviceable to give heed to the intimate nature of organisation. Not through the firmness of its constituent particles, but only through its composition as a whole and through the specific mode of its activity, does the living substance possess any degree of consistency and constancy. The sundry successive sets of constituent particles, which one after the other are forced in and out the specific cycle of vitality, are playing but a very ephemeral part in the phenomena of life. The peculiar arrangement and activity, which determine in all respects the nature of the living individual, are themselves occurrences intangible enough as actual presences. But the specific arrangement with its accompanying activity is during its perpetuation, moreover, quite newly and incipiently caught up from other pre-existing specific configurations and activities by most rudimentary collocations of particles; and these mere beginnings of organic new formations are ultimately developed into the full likeness of their genealogical prototypes, solely by dint of the transmitted compository influence. Thus, in endless train, the bare peculiarity of arrangement is being transferred

as such, from one individual to another; an imperishing possession, very obviously secured by something altogether transcending the identity of material constituents, on which—according to some—all genuine permanency is based. The successive material embodiments are completely broken up and scattered to the winds, yet the 'form' indelibly endures. One and the same persisting presence is ever visibly underlying its many changing and perishing presentations, is moulding with perennial potency all accruing stuff into its exact type of organic conformation, compelling it, for a while, to subserve only its own unitary purposes.

All this means, the recognition, indeed, of a hyperindividual actuality, much of the same order as Platonic ideas professed to be; but the conception is experientially, not transcendentally derived. The Platonic idea was the reminiscence of an archetypal order only intelligibly existent, and connected with our sensible world of ectypal manifoldness merely by help of a supernaturally pre-established harmony. The organic idea is the symbolical representation in human conception of the actually embodied synthesis of a sensible manifold, realised in thought by help of a naturally established harmony between the perceiving subject and the perceived object. The former idea was the expression of an ideal estrangement, the latter of an actual concordance.

The conception of our own individual identity forms part of the organic idea, and receives, as we have seen, its explanation from organic occurrences.

The substantiality of our being, as vaguely hypostatised by introspection, is actually the same organic fact of reconstitution under a somewhat different aspect. Vital occurrences of any kind, sensory functions naturally included, are in all truth varying modifications of one and the same identical and indivisible organic unit. We have here a display of most manifold appearances and events, a continual outflow of most diversified specific energies. Yet the manifesting entity indiscerptibly endures. It lasts undiminished and undivided amidst all its changing and perishing modes. It lavishly spends itself without suffering any substantial loss.

This fact, evident but unexplained, has constituted the great paradox in philosophical interpretation, the inevitable stumbling-block of all systems. The insoluble mystery of substantiality, the "final inexplicability" of all schools, and with us of that of Kant as well as that of Hume, of that of Hamilton as well as that of Mill, has consisted in the impossibility of conceiving how anything can remain actually and indivisibly the same under constant intrinsic changes and timely expropriations. Or, as

John Mill puts it, "How something which has ceased, or is not yet in existence, can still be in a manner present".

Duration, not as the sum total, but as the support of changes, has thus remained a philosophical perplexity, beyond the reach of sober thought. It was distinctly felt that time with its contents cannot possibly be a mere rope of sand, yet it was not understood from what perdurable and unrelinquishing influence it receives unifying consistency and relativity.

This ancient mystery is scientifically cleared by the recognition of the reconstitutive power of the organic unit as an indiscerptible totality. This assertion may be thus confidently made, because it can be witnessed without a chance of error how by redintegration the living substance preserves its identity amidst continual functional changes.

What more can be affirmed of any substance, not thus experientially given but otherwise imagined, than that amidst its varying affections it constitutes an identical, indivisible, perdurable, and self-sustaining focus of energy. The deepest philosophical discussions have always turned on these essential attributes of substantiality; but the performance of putting together a true substance out of these well-conceived properties was carried on outside any real medium; in fact, in absolute vacuity. For "indivisible simplicity" is an utterly annihilating attribute. It completely nullifies any sort of reality. It represents nothing but an inert mathematical point.

Homogeneous extension of any kind is, indeed, infinitely divisible; but this means, in reality, that no part of it—be it ever so minute—is qualitatively distinguishable from the whole. Take, on the other hand, as initial totality a chemical molecule consisting of heterogeneous elements, and all the reasoning applicable to homogeneous extension becomes at once invalid. Here, evidently, it is only the definite combination which forms the whole, constituting it a truly indivisible unit, of which no part is qualitatively identified with its totality. Any process of division would instantaneously annul the indiscerptible integrity, by dint of which it forms the definite whole given in reality; a whole consisting altogether in the specifically interdependent relations of heterogeneous elements.

It is precisely in this sense that an organism is essentially an indivisible totality. The living substance, even in its most elementary forms, constitutes a flowing chemical unit, of which all parts are interdependent and heterogeneous. A careful survey of the chemical cycle that sustains the living substance proves this plainly.[1] Observers have been hitherto misled, in the inter-

[1] Readers who have no opportunity of observing monera for themselves, but who would like visually to realise the vital conditions above indicated,

pretation of the nature of the protoplasmic individual, chiefly by the fact that any severed portion retains its vitality, continuing to perform the main functions of life. They concluded therefrom that the living substance must be made up of qualitatively equal parts; a conclusion which seemed also in perfect harmony with facts familiar through the study of inorganic nature. Nevertheless, the misinterpretation here under consideration is very transparent. If I cut a piece off an entire moner, the cut-off piece, as well as the moner itself, will reconstitute the full integrity of the type represented by the complete individual. This occurs certainly not because both parts of the divided individual consisted of equal molecules; but, on the contrary, because they formed fragments of a mutilated unit, which by complemental affinity or organic repair succeeded in reintegrating themselves. This very evident state of things becomes quite unmistakable when the two portions of a divided organism are strikingly heterogeneous, even to the naked eye, the one being, for instance, the head, the other the tail-end of the individual. If now—as it actually occurs in certain worms and other inferior animals—the head forms a new tail, and the tail a new head, it is altogether patent that the completion of the organic totality is here the controlling influence, and that it is the chemical heterogeneity, not the chemical homogeneity, of the severed parts which makes the complemental reconstitution possible.

In short, the living substance or organic individual is indivisible, because it constitutes a specific chemical unit, persistingly maintained by means of reintegration.

It is perdurable, because amidst a continual vortex of changes, it succeeds in preserving its integrity by restoration.

And, lastly, it is self-sustaining, because it has residing within its own self affinitive powers which, during functional and other destructive changes, constitute it a chemical radical with definite energies of complemental saturation.

Under this readily verifiable organic point of view, some of the oldest and most unwieldy philosophical paradoxes receive an easy and undubious solution. In the operations of vitality and organisation we find reconciled conceptions, which otherwise appeared utterly incompatible. It becomes evident, beyond suspicion, how identity and perdurability can coincide in one and the same being with change and decay; nay how such a being can even draw progressive power of unity from the perpetual flow of the perishing manifold.

will find very fair illustrations of various monera, appended to a paper contributed by the present writer to the London *St. Thomas's Hospital Reports*, 1879.

And now that we have established substantiality on a scientific basis, and have gained an insight into its organisation and working, it will be interesting to contemplate for a moment the difference presented by the spurious substantialities figuring in philosophical systems, when compared with the genuine substantiality here explained.

In the effort to account for knowledge, it was found indispensable to presuppose as foundation something identically enduring; for, even the simplest proposition presupposes identity and stability of some part of its contents. Through generalisation of this logical relation, substance came to officiate in philosophy as something which supports varying modifications without itself ever varying.

After what has been here stated, it can be seen at a glance, how hopelessly unintelligible such a conception of substantiality must ever remain. In order, logically, to insure the surmised unchangeableness of substance, metaphysicians had to postulate its simplicity, and at last also its indivisibility. Anything complex is liable to change. Everything is complex which is in any way composed, for it consists of constituent elements. Everything is complex which is extended, for it can be divided into manifold parts. Therefore only the uncomposed and the indivisible can be perdurable and incorruptible.

So much seemed necessarily implied in the conception of substantiality, and now the puzzle was intelligibly to unify the diverse, manifestly known attributes, with a simple and unextended substratum which remained ever concealed. It was clear—even to early thinkers—that the attributes which are many in number and heterogeneous in kind cannot possibly form constituent parts of a substance which is thought of as simple and indivisible. Consequently the attributes had to be conceived as affections of the substance. But how? At times the conception of substantiality appeared to fit best the enduring existence which seems to support all external changes. The state of material subsistence implied a substantial substratum of some sort. There was here, clearly, something unperishing, underlying the perishing modifications. But it was hard to understand how composite and divisible things could in any way inhere in something whose unchangeable persistence involved uncompromising simplicity and indivisibilty. Besides the substantiality supporting material attributes was not itself a perceptible existence, and had therefore to be conceived as a purely intelligible entity; an entity which could only be realised in thought, and never could become a sensible manifestation. Some philosophers, remaining, nevertheless, faithful to the objective view, endeavoured now to construct the universe

out of the interaction of simple and indivisible particles, which particles had, at last, however consistently to dwindle away into unextended centres, manifesting their existence merely through irradiation of energy. To others it appeared that thought, as such, possessed the closest affinity to substantial being. The perdurable something, manifesting modifications, and never revealing itself to sense, might possibly be thought itself, all-comprehensive thought, adequately disclosing, as changing moods of its own, the apparent manifold. A certain simplicity and indivisibility belongs seemingly to the nature of thought, and generally speaking it does not lose its existence by manifesting its affections. It is still there, undiminished, to repeat its performances over and over again. But if thought is actually the substance, or—more correctly—the veritable substantial thing-in-itself, what becomes of it when no thinking is going on? Where does thought retire to in the intervals of its manifestations? It had to be admitted, on close inspection, that the substantiality of thought, for all its promise, discovers itself, likewise, as interrupted, incoherent and ephemeral. In fact, it never presents itself as a persistent whole, but always only as a succession of moments, perishing within the diffracting and dissolving medium of time. Therefore, thought, as known to us, cannot be that all-sustaining essence of being, metaphysically postulated. Moreover, in proportion as thought, in its thinking moments, widens in comprehension, it loses its hold on reality. When fully stretched, so as to become co-extensive with being in general, it represents not the totality of being, supporting the entire wealth of known affections, but only an empty shadow of being, deprived of all qualities.

The ultimate, all-comprising substratum must then be something infinitely more profound than thought, something, of which thought itself is merely one among many divers modifications. It is this utterly saturated substance, in its undisturbed simplicity and indivisibility, which is conceived as the self-sufficient One-and-All, the Absolute.

It necessarily follows therefrom, that any perturbation in the self-poised repose of this complete totality can only lower its maximum state of perfection. Modifications or affections of any kind can only become manifest through restriction of its absolute completeness. "Determinatio est negatio," says Spinoza rightly, echoing therein the teachings of the Cabbala, and these again the teachings of Neoplatonism. The position of anything determinate, within the uniform excellence of the all-embracing existence, must needs be a privation, a degradation, a negation of the perfection of that existence.

This, undoubtedly, is the genuine logical outcome of the

spurious notion of substantiality which governs transcendentalism. The metaphysics and ethics of that great school of philosophy will have sooner or later unswervingly to bend to this leading conception. Transcendental optimism and personalism are inconsistencies, which will have to give way to uncompromising pessimism and pantheism. To such a cosmological conception our human lives can signify ethically nothing but a struggle for complete reabsorption, for the final state of absolute quietude somehow—by some unaccountable guilt—recklessly forfeited. This view of emotional pacification through re-identification with the All-Being, long familiar to nations of the East, is becoming a wide-spread creed also in Europe.

The real contest, now pending, is not between intervening modes of thought, but between the very extremes. Either genuine Transcendentalism or genuine Naturalism. The fate of future generations depends on the decision.

III.

Our sciences have been hitherto exclusively governed by the Aggregation-hypothesis. All bodies are conceived as clusters of elements, not only when the units entering into their structure are considered homogeneous, but also when they are known to be heterogeneous. The constitution of bodily textures is mentally represented as a grouping of elements into more and more complex configurations. These constituent elements are believed to persist, as such, within the compound; indeed, to make up the same by their mere juxtaposition, and the summation of their respective energies. Forces, infringing on material products of this kind, are thought immediately and intrinsically to affect only the relative position of the constituent elements, and thereby mediately also the general equilibrium of their sundry energies. Permanent modifications of material compounds acted upon in this manner are considered to be effected by permanent displacement of their elementary particles. Diminution of mass is believed to occur only and simply through subtraction of constituent elements; increase of mass through addition of such. In every case the elements themselves are taken to be the veritable bearers of the specific properties and energies, of which the compound represents the balanced sum total.

In studying primitive forms of protoplasm, as I have already explained in this journal (Mind XIX., XX), I was led to frame a very different conception of the intimate constitution of living structure. In this instance, at least, the compound as such, *i.e.*, the balanced totality of the product, is very evidently the

controlling power; a unitary power, to which all elementary energies are completely subservient. The constituent elements, that enter into the composition, receive their relative position and influence from the specific constitution of the whole. They form integrant parts of an indiscerptible unit, not constituent parts of a divisible aggregate. Infringing forces do not merely displace elements, but break up the integrity of the whole. There occurs not simply mechanical shifting, but chemical ruption. And the disturbed equilibrium is not restored by mechanical readjustment of parts; but is effected by complemental reconstitution of the chemical totality. Permanent modifications of such a unit cannot possibly take place through permanent displacement of its elements. In violent encroachment, either the substantial unit ceases altogether to be, or it succeeds in restoring its previous integrity. Permanent modifications have to come about through a change in the mutual affinities of the elements, the modified status of saturation, evinced by the compound as a whole, becoming then the expression and index of the realised modification. When in the course of growth or development elements are added to the whole, they are not merely interposed between other elements, but go to effect a chemical change in the entire unit. There results an essentially different being by means of a modified chemistry, not only an enlarged bulk by means of a numerical increase of constituent parts.

The modes of energy displayed by the organic individual are not due to the expenditure of force newly brought to it by accruing complemental material or food, but are altogether due to the unlocking of forces contained in the saturated affinities of the chemical radical, which in any condition of functional disintegration remains the conservative and restorative core of the living substance. This permanent, self-sustaining core of life is the embodiment of all evolutional results, and its vital manifestations are the expression of its own most specific and rigorously preserved endowments. It is this spontaneous self-preservation of the living substance amidst superficial changes, keeping intact the accumulated acquisition of ages, that composes the perdurable substratum for the display of temporal occurrences.

The organic individual appears to us as a chemical unit constantly shattered by external influences at its exposed and chemically cumulating regions; but as constantly renovated by intrinsic affinities through incorporation of complemental material. The surface of a highly developed organism presents most diversely differentiated points of contact to most diversely stimulating influences. These inlets of specific modifications all

converge towards one common centre. And to whatever depth the disturbing influences may happen to penetrate, they are always met by the spontaneously reconstituting energy of the organism as a whole.

Thus the innermost fact of organisation, or rather the culminating event of intrinsic organic reproductions, coincides with the most profound psychological occurrence. The *spontaneous* reconstitution to perfect integrity of the living organic unit, in spite of multifarious temporary encroachments and derangements, accounts for the supreme stability of pre-organised experience, for the stability of what with human predilection we are wont to call the conceptual order. And it explains also the contrast which is found to obtain between the self-evolving persistency of that order, and the evanescence of special phenomenal displays, *i.e.*, of the casually stimulated sensory configurations. It is the intrinsically and spontaneously renovated totality of our being, which is enduringly opposed as reacting medium to the successive inrush of varying sensory activities.

The logical order depends on ideal and volitional detachment of previously centralised and recognised affections from the all-comprehending unity of apperception. The phenomenal order depends, on the contrary, on the compulsory determination of specific affections, potentially inhering in more peripheral regions of the mental structure. Here, however, "determination" is by no means "negation," but very positive confirmation. It is truly confirmation of organic life and being, because the relations between the stimulated parts and the stimulating influences are naturally preconcerted. It essentially belongs to the nature of organic existence to be thus specifically roused by external powers.

Conscious states are clearly ephemeral effluences of an enduring being poised—far beyond conceptual comprehension—in the exquisitely exact and subtle balance of what symbolically reveals itself to us as vital substantiality.

So far as the resplendent gifts of vitality are concerned, we may implicitly rely on organic perpetuation; only, we must ever bear in mind that this perpetuation has to take place through the instrumentality of individuals. It, therefore, devolves upon each of us most scrupulously to concern himself, that during his period of agency the transmitted endowments of the living substance do not suffer deterioration. And, moreover, it is incumbent on us all to be striving with ambitious solicitude that our own mite, which by personal exertion we are able to contribute to life's abounding store, may not prove unworthy of lasting incorporation.

EDMUND MONTGOMERY.

III.—EFFICIENCY AS A PROXIMATE END IN MORALS.

The goal of Evolution, as descried by Mr. Herbert Spencer, is a society in which the self-preserving, race-preserving, and social activities of each individual are exercised in furtherance of the corresponding activities of all other individuals. So completely has the human organism adjusted itself to the environment, that all trace of the antagonisms, collisions, and repressions with which we are now familiar has disappeared. Every energy of the individual is put forth in a favouring medium. The discharge of function has in all cases been either raised or reduced to a normal standard; and, with this duly proportioned exercise, comes the full quantum of pleasure by which the normal discharge of function is always accompanied. The only activities, consequently, that are to be found in such a community are spontaneous ones. From one end of the gamut of human conduct to the other the note is ever struck by the same hand. Action is prompted by one motive, and by one only—the reminiscence of pleasurable sentiency in the past, accompanied by an organised assurance of the renewal of it through the same channels in the future. The *dulce* needs no longer to be mixed up with the *utile* in calculated proportion; for the *utile* and the *dulce* are one and the same thing. Duty, in short, has become synonymous with desire. Prompt obedience to his own organised appetencies secures in the case of each individual an entire satisfaction of the claims of citizenship. Such is the future of our race, as seen through the evolutionary telescope; and the picture has been sketched in outline for the purpose of bringing some of our present ethical perplexities alongside of it. The state of things in which we live is obviously embryonic and transitional. Surrounded as we are by the tangled interactions of forces whose final relation has not yet established itself, and, condemned as we often are to mere fugitive surface-trackings of subterraneous purpose, we may reasonably hope to gain something if we repair with our difficulties to the stable equilibrium and the statuesque definiteness of the matured design. By way of carrying out this experiment, it will be necessary to call up one of the denizens of our ideal community from the vasty deeps of time, and hear what he has to say.

Our cross-examination of him may fittingly begin with the question which always presses to the fore in ethical inquiries, whatever starting-point be adopted. Where do you find the

basis of obligation—what is it that makes you act as you do? This question our witness will probably have difficulty in comprehending. It may well be that all conscious record of such conflict as is implied in yielding to an obligation has been organised out of him; but, as soon as he has succeeded in realising the purport of our inquiry, he will doubtless reply that no such feeling or conception as that which we speak of has any place in his own experience. We shall learn from him that he knows nothing whatever of disagreeable claims, but that the service and loyalty which he owes to the community in doing it pays itself. From the tenor of this reply it is evident that, unless philosophy has been paid off, like so many other agencies which the course of evolution has superannuated, hedonism of some kind must be the prevailing creed. We accordingly make bold to ask our imaginary interlocutor what he thinks of the respective claims of empirical and scientific hedonism. To this he promptly replies that with him they are one and the same thing. Having never encountered in his own experience any competition between special and general happiness, between the well-being of the unit and the well-being of the aggregate, he is unable to discern any distinction between the philosophic systems of which they are respectively the key-notes. By this reply another of our ethical difficulties receives a happy despatch. We now proceed to inquire what part self-sacrifice plays in the experience of our perfected descendant. Upon this we can fancy him heaving a sigh, and confessing that we have hit upon the one unhandsome feature of his condition. He replies that, though the aspiration survives universally, and in increased potency, the means of gratifying it have shrunk to the most meagre dimensions. Whilst everyone is eager to benefit his neighbour at his own expense, no one is willing to receive a benefit which appears to detract from the well-being of the bestower. Here and there, the stroke of physical calamity gives play for the exercise of self-bestowal; and such rare opportunities are scrambled for as greedily as selfish advantages are amongst ourselves. But this answer is a little perplexing. It does not carry our difficulty up to a vanishing-point, as did the results of our previous interrogatories. Alone of unsatisfied desires, the impulse towards self-sacrifice remains, to ruffle the peace of the evolutionary millenium. If we reflect a little, we shall see many valid reasons why this must be so; but it would be apart from the scope of the present paper to set them forth. Suffice it to say that the fact is not without its luminous bearing upon the standpoint which we have adopted. If self-sacrifice survives, it survives rather potentially than actually; and this circumstance at least enables us to get rid of the in-

tractable paradox that is involved in our current conceptions of a self-sacrificing hedonism. But we have another question to put to our remote friend before we let him go. We must ask him whether he gets the data of his moral code from without or from within—whether he is guided by the instinctive monitions of conscience, or by the dictates of a rational expediency. Here we may certainly expect him to reply that, as all consciousness of proclivity towards courses other than those prescribed by the welfare of the community has been effaced in him, the mental phenomena which had their *raison d'être* in resistance to that proclivity have disappeared too. By a strong effort of the historic imagination he may succeed in conjuring up the debt which he owes to conscience in the past, and in realising how victoriously it has steadied the slow march of humanity towards the goal at which he is happy enough to find himself. But, as an active controlling power, it cannot be known to him any longer. The rails which Evolution has laid down for him now lie so firmly on the sleepers, that all further lateral guidance of his course has become superfluous. Desire he knows as a motive energy, and the pleasure which comes from the satisfaction of desire as a perpetual reinforcement of that energy. With this simple exchange the dynamic circuit of each vital activity begins and ends. To the painful tension of complex volitional processes, out of which the resultant of conflicting claims gets slowly disengaged, he must be, *ex hypothesi*, an entire stranger. It may be objected here that this superannuation of conscience does not accord with the best evolutionary prevision. In Mr. Herbert Spencer's view, conscience, as representing the ascendancy of the social-self over the individual-self, so far from being superseded as the goal of Evolution is approached, tends more and more to become omnipotent. In reality, however, the distinction between these two views is merely a superficial one. Conscience has, indeed, become omnipotent, in so far as all the behests which it could conceivably enforce are universally obeyed. But, on the other hand, in so far as its conscious control has been transformed into an automatic spontaneity, it has practically received its discharge.

What state of things then has been revealed by this brief colloquy with the heir of time, to the full measure of whose felicity all our present doubts, difficulties, and struggles are contributory? Briefly this. Obligation has been evolved away, conscience has sung its *Nunc dimittis*, self-sacrifice has been transformed into a rare and coveted luxury, and empirical and scientific hedonism have become merged in a hedonistic automatism. Such is the euthanasia which, if any value is to be attached to evolutionary prophecy, awaits our present ethical

perplexities. How far such prophecy is justified by the premisses, is a question which can only be touched on here. I can merely remark in passing that the goal of Evolution lies strictly in the direction of achieved progress. Take what branches of human activity we will, we have only to draw lines joining our present standpoint with the starting-point of a remote past, in order to find them all converge irresistibly on this focus of complete social life. Assuming, then, the approximate truth of the picture, let us see what light it will cast on the ethical problems of to-day.

As a positive result, it should certainly tend to reconcile us to a tentative, incomplete, and provisional character in any system which we may adopt to meet present needs. What Ethics has to deal with is an enlacement of complex activities, undergoing a constant and accelerated transformation. Some forms of those activities, as we have seen, tend ultimately to a vanishing-point, whilst others are destined to work their way to a final and paramount ascendancy. But the evanescence of the former must ever be a hopeless source of bafflement to our efforts at formulating the scientific relations that subsist between the latter.

At the moment, moreover, as Mr. Herbert Spencer has shown, the problem is passing through a stage of maximum complexity. The social environment of the civilised man has temporarily outstripped in its development the capacity of the human organism for adaptation. The result is an arrested adjustment —an exacerbation, so to speak—of the normal conflict between duty and desire, and a consequent breakdown for a time of all guidance of pleasure and pain in the domain of morals. Such being the situation, it needs indeed an heroic faith to believe in the discovery of any permanent scientific principle that shall enable us to co-ordinate and thread our way through a mass of phenomena at once so shifting and so complex. In this shape, it is clear that our only course is to evade the problem altogether, and to provide ourselves with some working hypothesis outside of it. That we have thus to forego all hope of reaching a scientific code of morals as the result of our quest, is doubtless a very disheartening admission; and the only mitigation of the discouragement lies in the fact that a scientific method of inquiry in morals has at last been established. Under Mr. Herbert Spencer's guidance, we have come to see once for all that actions must be judged, not according to the qualities which have been read into them by external authority, or by metaphysical theory, or by sentimental prepossessions, but by the qualities which have been ascertained by observation and experience to be inherent in them. This, surely, is no

trifling success, and may in some measure console our generation for confessed failure in regard to final results. When so many wrong paths are open to us, each attended with more or less formidable dangers, it is something to have got at last on the safe track, even if we cannot yet descry anything in the shape of a goal at the end of it.

We now come to the negative conclusion which our glance at the goal of Evolution seems to force on us. It is this:—that, as we now stand, happiness special or general, cannot help us at all to a practical standard of reference for proximate ends. We shall see later on in what precise and limited sense happiness may be recognised as an ultimate end of conduct, in association with the Efficiency-principle. But, as a test of proximate ends, or as a proximate end itself, we have come to see that its disability is foredoomed. Looking again at the perfectly adjusted community of which our own is the embryo, we find that the distinction between proximate and ultimate ends has ceased to have any practical significance. If any proximate end which we can suppose a member of that community to have in view in any particular action is realised, his ultimate end—the furtherance of the complete life of the whole community—becomes *ipso facto* realised at the same time. For, by the hypothesis, all the activities of the unit contribute with unvarying and spontaneous exactitude to the welfare of the aggregate. In such a state of things, special and general happiness may be applied with equal appropriateness as a test to every end. But the conditions of the problem with us are wholly different. Not only are the proximate ends which current morality sanctions scarcely ever demonstrably related *as means* to the ultimate ends which are owned to by the various schools of Ethics, but they are often demonstrably antagonistic to them. This difficulty, however, is only another side of the fact that, owing to the imperfect adaptation of the individual constitution to its social environment, special and general happiness do not yet coincide. Make them coincident, and the difficulty vanishes. Proximate and ultimate ends then differ only in name, and the hedonistic principle has an unrestricted application. But, to anticipate this climax, and to claim for hedonism the capacity to serve as a working test for proximate ends, is to hold that the possibility of solving an equation is not affected by the number of unknown quantities involved in it. It is precisely because we see the hedonistic principle destined to govern all our ethical calculations when the present social antagonisms are got rid of, that we may pronounce it *a priori* disqualified for that service so long as the antagonisms survive. The simplicity of the future, which

comes as the result of completed adjustment, is reached by a natural and intelligible process of elimination. The simplicity which hedonistic philosophers think it possible to realise can only be arrived at by an artificial suppression, in theory, of facts which, in practice, decline to be suppressed. An artifice of this kind is, indeed, often of the highest value in mathematical investigations, where the suppressed facts can be restored and allowed for, when you come to apply abstract relations to concrete facts. But you cannot replace the suppressed facts in the hedonistic equation, because they are unknown and incommensurable quantities; and, directly you introduce them, your equation becomes hopelessly indeterminate.

A strong corroboration of this conclusion may be obtained by approaching the question from the "motive" point of view. That we have now arrived at a new point of departure in Ethics, is scarcely disputed even by those who cling most tenaciously to the old methods. Up to the present time, ethical systems have never been at a loss to furnish a rational motive for right action. But they have done this only by the aid of supernatural appeals and sanctions. Under shelter of these sanctions, they have always been able sooner or later to enlist egoism on their side; and they have held their ground by dint of backing a remote egoistic consideration against a proximate one. With the moralist of to-day it is otherwise. He, like his predecessors, is eager to find some answer to the irrepressible question: "Why must I do this and avoid that?" But, while he feels that a reply is looked for which shall pacify the egoism of the questioner, he is well aware that, from the nature of the case, it cannot be forthcoming. Nakedly stated, the question amounts to this: "What pleasures am I to get in return for the pleasures which I am asked to forego; and where is the proof of their superiority?" To reply candidly to this query, is to admit that it cannot be answered. All that we can say by way of rejoinder is that the compensations have a potential existence, but are not yet actually available as such. The reason is to be found in the fact which has already claimed our attention—that the adaptation of the human organism has lagged far in arrear of the growth in complexity of its environment. The social opportunities are here; but the corresponding subjective attributes have not yet appeared. With the development of every activity, grows the pleasure which its exercise affords. But, of the social activities of our race, we may say that for the most part they have yet scarcely put forth their leaves. Of the large fruits of social sympathy which they are destined hereafter to yield, all that we can have at present is a foretaste too thin and unsubstantial to compete successfully with the

vigorous growth of self-assertion which the age-long struggle for existence has nursed in us to such rank maturity. Could we be confronted with the goal of Evolution organised as we are, that "pure severity of perfect light" would only bewilder and repel us. The warmth and colour may be there: but it would need ages of subjective transformation before we could become endowed with the capacity to see or feel it. So long, then, as egoism goes on fighting for its own hand, and so long as the pleasures of that struggle exceed in volume and intensity the pleasures of which social sympathy can be made the vehicle, so long will it be impossible to answer the crucial question of the ethical inquirer, from the hedonistic point of view, otherwise than evasively. But this difficulty too, though it cannot be escaped from at present, seems to have an euthanasia in store for it, like the others. It has its origin in the fact that egoism and altruism are at cross purposes; and it will vanish when egoism and altruism join hands. Thus we see again that a purely hedonistic treatment of Ethics is premature, and that no scientific development of the inquiry is in the least likely to render it applicable.

Now, let us take careful note of the bearings of the situation to which the above considerations have brought us. What we have been dealing with hitherto is the subjective elements that are available for the solution of our ethical problem. These have been tried in the balance and found wanting. They are seen to be incompetent to meet the demands which we have to make upon them; and their incompetency has been found not to result from a temporary, but a permanent disqualification. The happiness of which we have been treating is a resultant in sentiency of the interaction of the organism and its environment under an infinite variety of conditions. Of what those conditions are we have no scientific knowledge; nor are we for any practical purpose ever likely to have. Under these circumstances, happiness, as a working test in morals, has had to be ruled out of court. In no sense, then, are we entering on a *gratuitous* quest when we go a-field, in search of something that shall stand in place of what has failed us. The quest itself is forced upon us by the awkward but undeniable fact that we are on our beam-ends. The only thing about which we have any responsibility is the giving a wise direction to it. "He had catched a great cold," says the quaint Fuller, "if he had naught else to warm himself with than the skin of the bear not yet killed." We, too, it seems, are in danger of catching a great cold, if we wait till the hedonists have made themselves ready to protect us. Their bear is yet at large; and, what is still worse, we have found shrewd reasons for suspecting that he

has a charmed life. An ethical tabernacle, then, of some sort we must set up; and where is the type and pattern of it to be found? Though we may not, like the Hebrew architect, repair to the mount of supernaturalism for our design, the universe is not yet void of all friendly cheer. We, too, of this latter day have our Revelation; but, as has been said, it is writ in Genesis. In what has been, man learns the law of life. When baffled by the inadequacy of our subjective experiences to furnish a working test in morals, to what quarter can we have more appropriate recourse than to the objective order of events? In turning for guidance to the evolutionary forces which have given us birth, and whose image and superscription we bear in our vividest thought as well as our loftiest aspiration, we have the satisfaction of feeling that every dictate of sound and sober reason reinforces the appeal. Whatever may be claimed for man's volitional efforts in the way of future control over the development of society, it will hardly be contended that it lies within his competency to invent processes, or to change the conditions which render progress possible. In the methods with which Evolution has hitherto worked, there has been no breach of continuity, from the primal homogeneity of the nebular mist to the immeasurable heterogeneity which environs us to-day. And, if there is to be advance in the future, it will evidently be on the same lines, and under the same conditions as in the past. A choice of processes indeed nature does offer us; but it is a very narrow one. We may throw in our lot with Evolution and go forward; or we may surrender ourselves to Dissolution and go backward. No other course seems at all open.

Such are the conditions presented to us; and, from the standpoint of this paper, there is no escape from their significance and imperativeness. In view of them, we cannot justify the refusal to take a hint for our own voluntary guidance from the hands which thus stretch through nature, and from hour to hour shape us into what we are before our very eyes. It is, of course, easy to sneer at the absence of all ethical flavour, and almost of human interest, in the bare statement that progress is from the simple to the complex, and that nature is never tired of elaborating what she works at. But, to put the case so, is to jest with it. The real question is whether, having lost our ethical bearings, we should steer by the chart of Evolution, or go our own gait. If we choose the latter course, at least let us not forget the consequences, if haply we be found to fight against "that strong thing which once was chaos, and which shall be God". For such resistance, voluntary or involuntary, there is but one penalty—inevitable loss of all that Evolution has won for us.

That it promises a certain immunity from this error and its consequences, is not the least recommendation of the principle of Efficiency as applied to Ethics. When we proclaim once more under new sanctions the time-honoured precept "Whatever thine hand findeth to do, do it with all thy might," we are but surrendering an infinitesimally small sphere of voluntary activity (which apparently is ours to give up) to the sway of forces which around it are everywhere paramount. If these agencies were alien or untried—if we had any reason to dread their operation upon human destiny, reluctance would be justifiable. But so far from that being the case, we are debtors to them for everything that we are and everything that we have. In them, literally, do we live, and move, and have our being. If we cannot trust them here, it will be the first time in the history of the universe that they have failed to provide slowly for the best. Faith in Evolution, carried to this length, will, of course, be denounced as a demoralising fatalism by many who profess a lip-service to evolutionary principles as a whole. What the origin of that sentiment is, it is indeed not a little difficult to discover, unless it be that those who entertain it believe themselves to scent in Evolution, as thus presented, a transformed survival of the providential government of the world. That the cry should be raised by orthodox voluntarians, would be natural enough. From their standpoint, it would be no inappropriate exercise to give a new lease of life to the third commandment, and not to hold him guiltless who takes the name of the voluntary activities in vain. But it is indeed a strange phenomenon, that those who accept the doctrine of causation should thus take fright at its inevitable consequences. Evolutionary science is merely guilty of applying that doctrine to the interpretation of events. It neither takes from it, nor adds to it. My action to-day depends on my will, and my will depends on my character. In whatever degree this statement amounts to an apotheosis of the forces that have built up my character, it is clearly causation, and not Evolution, that is answerable for that effect.

Having got thus far, we may naturally expect to be asked exactly how we stand in regard to happiness. Have we deliberately turned our backs upon it—or are we waiting to take it up again at a further stage of our inquiry? Neither the one nor the other. We have the satisfaction of seeing it step up alongside of us, in the shape of what Aristotle calls an ἐπιγιγνόμενον τέλος—an end that supervenes. We have ceased, it is true, to trouble ourselves directly about its presence, and have left it very much to shift for itself. Perhaps, however, we shall find that this neglect of ours has been altogether a wholesome one.

That we have indirectly provided for its welfare in our advocacy of the Efficiency-principle, is at least highly probable. Little as we know about the climatic conditions which suit happiness, we may safely say that industry, self-respect, and mastery in the tasks allotted to us would be hopeful prescriptions for the attainment of it, even if that were the direct end which we had in view. So far, however, as our conscious efforts are concerned, it is not an end with us at all. Now such a result as this is felt at once to contradict the habitual tenor of our experience; and hence arises a natural scepticism about it. If we want to reap, we sow with the deliberate aim of reaping; nor do we expect to gather, where the strawing has not been done with calculated prevision. To this rule, however, there are momentous exceptions; and, if we look for a moment at the traits which happiness displays in its ordinary manifestations, we shall see little reason to wonder at the seeming magnanimity with which it condones our neglect, and credits us with an allegiance which we have never rendered. As a matter of practical experience, it is found to be an unvarying characteristic of this coy attribute of our sentiency, that it will only be wooed in a roundabout way. To conscious and calculating suitors, happiness has a provoking trick of answering "not at home". The law is, as has been pithily said, that to get it we must forget it. A paradoxical precept truly, and one of which we are not likely to find the key, until we come to realise what a pitifully subordinate part is played by our conscious activities in the furnishing of our lives. Of other fruits of existence equally precious, the same thing may be said. They come to us by the way, without any direct quest on our part. Goethe,[1] evidently, thought this of wisdom; and his famous paradox might have a widely extended application. Those, however, who entertain insurmountable misgivings as to surrendering the direct tutelage of happiness, may at least take heart from the reflection that their *protégé* would be left in good hands. It is precisely because happiness has ever been the special ward of Evolution, that our conscious solicitude about it is such a work of supererogation. If Evolution has not pampered and spoilt her favourite, she has at least provided for its healthy and vigorous growth. When we take into view the higher planes of human experience, it is not perhaps so easy to establish this fact against pessimistic objectors. But, in the lower domains of sentiency, it can admit of no dispute. The civilised world of

[1] Die hohe kraft der Wissenschaft,
Der ganzen Welt verborgen;
Und, wer nicht denkt,
Dem wird sie geschenkt.
Er hat sie ohne Sorgen.—*Faust*, First Part.

to-day is one vast manufactory of anodynes. The supply, it is true, lags ever in arrear of the demand; but, after all, it is steadily, if slowly, gaining on it. Though the pessimist may contend that, in spite of progress, the sum-total of pleasurable sentiency in civilised communities has not been added to, he will admit as readily as any one that evolution has worked unfalteringly in the direction of mitigating physical pain and contributing to physical comfort. His contention is that, for every lower pain got rid of, we have some subtle psychical equivalent put in its place. But, if this contention could really be established, it would be as fatal to the hedonistic as to the strictly evolutionary programme.

In regard to what has been said about the inaccessibility of the happiness-principle, it will perhaps be objected that a distinction ought to be drawn between happiness and the conditions which notoriously render happiness possible. But what would such a distinction avail us? It is precisely in regard to the agencies contributory to happiness that we are so entirely without scientific guidance. How are they to be recognised? How are they to be classified? How are they to be co-ordinated to the infinite variety of subjective requirement? To these questions the most thorough-going hedonist will confess that he is not yet prepared with any satisfactory reply. Of course, he will add that the mists are beginning to clear, that science is hurrying to his rescue, and that the formulation of a scientific hedonism is only a question of time. The latter is doubtless a safe way of putting it; but a postponement for decades is one thing, a postponement for æons is another. The real question is of his present predicament, and of his immediate prospects. What is here argued is that, with the equipment now at his disposal, his jaunty claim to superannuate Evolution and to improve upon her pace is a trifle premature. The truth seems to be, in regard to this matter, that the vivid glimpse which modern science has given us of hedonistic possibilities has turned our heads. For the moment, we are intoxicated with the dream of a transfigured existence, and hasten to credit ourselves with being the authors of a spectacle of which we have been simply the discoverers. In this mood, it is a short step to spring at the reins, and try to drive the car ourselves. Such, from the point of view here adopted, is the tone and attitude of much of the hedonism which, emanating at first from a quasi-scientific source, and becoming degraded as well as popularised in its descent, is slowly leavening all classes of society. It is true that the wreck of a solar system is not at stake in the charioteering pretensions of these our modern Phaethons. But, for all that, they can wreck much. Nothing, I believe, is more to be dreaded than that modern

society should have its gaze fascinated by these phantom goals of pleasure, and at the same time should carry away the fatal notion that science guarantees it against the penalties which attach to the pursuit of them. In that way, the stream of Dissolution may very easily be turned on, and we may slip down the ladder of Evolution far more rapidly than we mounted it.

Having said thus much by way of logical justification for erecting the principle of Efficiency into a proximate ethical standard, let us see how far it is likely to justify itself by its salutary effects upon society as it is. Now, the most superficial glance at modern industrialism suffices to show us that it has a deadly worm gnawing at its core. There is no attribute more generally characteristic of the handicraftsman of to-day than that he has neither pleasure nor pride in his work. What he appears to aim at is the minimum amount of labour and the maximum amount of inefficiency that is compatible with the due receipt of his wages. The chief labour-organisations have not scrupled, indeed, to take this "bad-workmanship principle" ostentatiously under their wing. With what cynical audacity it is propounded and acted on by all classes of modern working men, can be realised only by those whose occupation has brought them into close contact with the productive industry of these times. It would certainly be a bold thing to say that this deplorable state of things is wholly due to the currency of crude hedonistic conceptions amongst the working class. But may it not be safely said that this has had a great deal to do with it? The notion that the whole duty of man is summed up in the pursuit of the agreeable and the avoidance of the disagreeable is the ethical ground-tone that pervades that stratum of society. Of course, it is easy to answer that this notion rests on a fundamental and *remediable* misconception of the conditions under which happiness is attainable, and that, to turn labour to proper account for hedonistic purposes, we must experimentally embody the idea of the poet:

> Child of our woe, yet parent of our ease,
> The toil which teaches pleasure's self to please.

But that is not the real point at issue. What we are concerned with is the fatal fact that labour in these modern days has lost its dignity in the eyes of the labourer. This is the theme that justly inspires the jeremiads of our modern seers, of Carlyle from the ethical point of view, of Ruskin from the artistic point of view. The mercenariness, the insincerity, the slovenliness of modern labour is ever the burden of their lament: to purify a social atmosphere thus tainted, the one thing needful is an ethical gospel which shall restore to labour its dignity, and to the labourer his self-respect. When we are able to inculcate, with the cogency and authority of a rational

conviction, that it is the primary duty of every citizen to make the quality of his work the best that the circumstances of the case admit of, we have brought a new social and industrial era already within ken. To make the workman feel that a moral responsibility is inseparably associated with his work and the manner of doing it, and that what he should most have to fear if he fails is, not the eye of the master, but the loss of his own self-respect—to inspire him with a principle of action like this, is to render him in the most salutary sense a law to himself, and to sow the seeds of the best kind of citizenship in him. It must not, of course, be supposed that, when the social serviceableness of the principle of Efficiency, if adopted as a moral standard, is thus illustrated, any attempt is made to treat consequences as a test of truth. Be its practical utility what it may, it must stand or fall as a philosophical tenet by the verdict which logic has to pronounce upon it. But, having once decided that it has logically established itself, we may legitimately reinforce our conclusion by contemplating its admirable competency to deal with the social problems to which it is applied. Having adopted it as a provisional expedient, rendered necessary by the hopeless state of flux to which all hedonistic data are for the present evolutionary era condemned, we here find that one of the special and characteristic ills of our time is that for which it supplies an antidote.

It is true that individual efficiency is to a large extent secured by the order of things under which we live. That fact, however, affords no reason whatever for refusing to adopt it as an ethical end. Nature is ever inviting man to take short cuts to the ends which she sets before him, and to forestall, for his own happiness and advantage, the rough methods which she always keeps in reserve, and which she is sure to bring to bear upon him in the last resort. So it is here. We may leave the principle of Efficiency to be enforced by the struggle for existence, or we may consciously anticipate the results of that struggle, and become efficient beforehand. Which of the two processes is the better for ourselves, even from the hedonistic point of view, can admit of little question. Beneficent in many ways as is the agency of industrial competition, from the moral point of view it has its ugly side. If granted a too exclusive possession of our regard, it may easily become the parent of a most narrow and unsocial egoism. But we largely disable it for this mischief when we do its proper work for it in advance. In an address of a working man, delivered a short time ago to an assembly of his fellows, the struggle-for-existence point of view and its bearing upon efficiency is set forth with great force and pertinency.

"Competition," says the speaker, "is not half so much in the masters' hands as it is in yours. I defy any large manufacturer—and I have been foreman, journeyman and apprentice among you, and know the little ins and outs—I defy any masters or any organisation of managers and foremen, even if there were a foreman to every three of you, to make sure that honest work is being done. It depends upon you that the details of the work are honestly and well done; and it depends upon you, if the competition comes to be severe, whether or not we are to give up and say 'We are done: the old country is worn out'. I don't believe it; but it depends upon you. You have the opportunity of seeing work that no foreman can see; and, if you smother over that, and pass a bad or a slovenly job, depend upon it that competition will bring it back to you sooner or later tenfold. I adjure you as an old friend, who has the working classes as much at heart as any man in the world—I adjure you with all my heart and all earnestness, never pass a bad piece of work to your knowledge, and use your exertions to find a bad piece of work out."

Now, as an enforcement of the competition point of view, this appeal leaves nothing to be desired. It is as terse and forcible as it could be made. But who does not feel that an added force would have been given to the speaker's words if he had been able to tell his hearers that efficiency was a thing to be aimed at *per se*, and that there is no other source of a self-complacency that will stand wear? The motive appealed to is thus fundamentally changed; but the change is all in the right direction. The fear of injury is replaced by the hope of manly self-approval; and the workman is taught, not so much to defy his rivals, as to raise himself to a higher level.

In taking leave of this practical aspect of the Efficiency-principle, we may profitably call to mind an embodiment of it which has been shaped by a master-hand. That the gifted author of *Middlemarch* would have gone the length of vindicating a scientific authority for that view of duty which has been here set forth, would doubtless be a rash inference. But, certain it is that none of her characters bears trace of being drawn more lovingly or more sympathetically than Caleb Garth; and Caleb Garth is the principle of Efficiency clothed in flesh and blood. "His virtual divinities," says the author, "were good practical schemes, accurate work, and the faithful completion of undertakings; his prince of darkness was a slack workman." And it is well worth noting that, from the hedonistic standpoint, it does not fare so badly in the story with this imaginary champion of "the new morality". Of happiness, as a conscious end either for himself or others, he has never a thought. And yet, whichever way we look at it, his life is a true success. The unworldly simplicity, which forms the unconscious background of his character, does indeed sometimes bring him into formidable scrapes. But, in spite of these drawbacks, a liberal measure of personal happiness falls to his own share, whilst from first to last he is an

overflowing fountain of happiness to his surroundings. And this unstinted potency of beneficence in the man is felt instinctively by the reader to have some deep root. It is, evidently, not the outcome of any casual conflux of amiable qualities in him; but rather the fruit of a wide-reaching ethical principle, which gives shape and direction to his whole life. When we view his character in connexion with our present subject, the secret of its spell stands at once revealed. A man in that attitude has the universe at his back and a cornucopia within his reach.

It will be observed that in the foregoing pages use has been made of Mr. Herbert Spencer as an evolutionary seer, to establish a conclusion which he would certainly repudiate, and which he would probably condemn. Of all constructive philosophers, however, none would have less right than he to protest if alien superstructures are built upon his own foundation. Though conducted throughout on hedonistic lines, his last work amounts in substance to a reluctant and almost despondent proclamation that the hedonistic highroad—to borrow the expressive phrase of Emerson—ends in a squirrel-track and runs up a tree. The most sympathetic perusal of the *Data of Ethics* fails to distil from it any ethical *modus vivendi* by which present needs can be met. So that, in propounding the principle of Efficiency as the basis of what he called "the new morality," the late Professor Clifford did but anticipate a break-down of competing systems more complete and conclusive than he lived to see realised. To reinforce his position from a slightly different standpoint has been the object of this paper; and, in a situation so urgent as that with which we are now confronted, it will not be disputed that the importance of thoroughly sifting the pretensions of that doctrine can hardly be overrated.

To those who accept Evolution as a scientific account of the genesis of human society, there ought to appear nothing incoherent or incongruous in the proposal to incorporate a part of the unwritten code of nature into our ethical philosophy. Those who dispute the adequacy of the Evolution-hypothesis will, of course, make short work of any system that is based on it. A remark, however, may appropriately be added on the stock argument by which it is attempted to show that Evolution can never furnish the basis of any philosophy at all. We are constantly told that the system itself does not hang together, and that between physical and social evolution there is a breach of continuity which cannot be bridged over. The emphasis and frequency with which this objection is urged contrasts strangely with its superficiality. It is, of course, true that the struggle

for existence, which in the earlier stages of organic evolution reigns supreme, with the commencement of social evolution becomes steadily mitigated and transformed. It is equally true that social evolution, which starts with the paramount ascendancy of the tribal self, passes on to the liberation of the individual self; and, having accomplished this, proceeds to restore to the social self a final but transfigured masterdom. But these seemingly discontinuous phases are of the accidents of Evolution, not of its substance. The essence of Evolution is integration, with corresponding adjustment. So regarded, its march is strictly rectilinear and continuous: and it is of this continuous and all pervading element in it that the principle of Efficiency is the moral counterpart and corollary.

JOHN T. PUNNETT.

IV.—"MIND-STUFF" AND REALITY.[1]

PROF. CLIFFORD'S Essay "On the Nature of Things-in-Themselves" (MIND IX.) was one of the most ingenious of his speculative efforts. No doubt, had he lived, he would have done much to give his thought a more satisfactory shape. But what he did makes him one of the plainest expositors of a doctrine that, in various forms, is now held by many among modern thinkers. "Mind-stuff," as the word shows, is to be a substance combining physical and psychical properties. In assuming the existence of such a substance, we are to satisfy the demands of philosophy both as to the explanation of external phenomena and as to the problems of mental phenomena. The effort is, therefore, in its nature philosophical. Whether the resulting doctrine is tenable at all we shall see; but no one can doubt the value for higher thought of the discussion of such questions as Prof. Clifford in his brilliant and earnest way here suggested.

In MIND XXI., 116, Mr. F. W. Frankland has sought to give the doctrine of Mind-stuff a more complete development. Consistency has often been fatal to ingenious doctrines, just as it has always been useful to thought in general; and more than one reader must have felt his dissatisfaction with mind-stuff not a little increased while reading Mr. Frankland's fearless statement of consequences. There is something fundamentally unintelligible in the assertion that "motion is mind-stuff, that

[1] This article, sent from Berkeley in California, was written before the appearance of Mr. Gurney's article on the same subject, in MIND XXII.—ED.

volume of feeling is mass, and intensity of feeling velocity"; and even of conjectures (for Mr. Frankland throws out the assertion merely as a conjecture) we demand intelligibility. Nor have the brief and pointed criticisms that Mr. Shadworth Hodgson[1] made upon the philosophical consequences of Prof. Clifford's theory, as yet been answered. And Wundt, whose statement of a theory substantially the same as his own was cited by Prof. Clifford, has expressly disclaimed any assumption that his view is more than a hypothetical completion of the ordinary scientific *Substanzbegriff*.[2] Evidently then, if this Mind-stuff theory is to be of any permanent importance for philosophic thought, the whole matter must be subjected to a severe critical examination. This theory is as yet only in swaddling clothes. We have still to decide whether the child ought to be brought up, or whether, for the good of the state, it must be exposed on the mountains.

The doctrine is new, but the effort is indeed old, and hundreds of volumes have been filled with attempts to prove that nature is in some way full of soul. We can judge of all such discussions only by the use of the method of critical analysis, joined, as such analysis must be, with a constant appeal to inner and outer experience.

I.

"The elementary feeling is a Thing-in-itself," says Clifford. But what is the elementary feeling apart from a consciousness into which it enters? As we go back, answers Clifford, along the line of the human pedigree, the organisms that we encounter become simpler and simpler, and so, as we suppose, the complexity of consciousness diminishes also. But where are we to say that consciousness ceases? The continuity of the series forbids us to say that consciousness ceases anywhere. "As the line of ascent is unbroken, and must end at last in inorganic

[1] *Philosophy of Reflection*, I. 174, ff.: "I am not here concerned," says Mr. Hodgson, "with the theory of Mind-stuff. . . . My wonder is to find any one ambitious of having Things-in-themselves as an item in his philosophical system."

[2] Wundt's words are (*Phys. Psychol.* 2te Aufl. Bd. II., pp. 459, 460):— "Es versteht sich aber von selbst dass der so erweiterte Substanzbegriff" (that is, the concept of material substance as at the same time possessed of psychical attributes) "ebenso hypothetisch ist wie der ursprüngliche, und dass er überdies so zu sagen von bloss transitorischem Gebrauche sein kann". Of the new as of the old notion we know that it is our own product, not a revelation of reality. "Hier weist überdies schon die nicht zu umgehende Nöthigung, das Verhältniss des Physischen zu dem Psychischen mit dem des Aeusseren und Inneren in Parallele zu bringen, auf einen solch' transitorischen, für das wirkliche Sein der Dinge nicht massgebenden Charakter unserer hypothetischen Begriffe hin." For this idea of "outer and inner" is of but figurative application here.

matter, we have no choice but to admit that every motion of matter is simultaneous with some ejective fact or event which might be part of a consciousness." And so the eject-elements exist independently and form the great world of mind-stuff, which is itself the reality that we perceive as matter. Furthermore, we have the proportion existing: As cerebral image (physical) to physical object, so is perception to thing-in-itself. Whence it follows that the thing must be of like nature with the perception. The material universe is, therefore, an imperfect picture in a man's mind of the real universe of mind-stuff. So far Clifford; let us now examine the notions herein involved.

And first, one must speak of a certain vague use of terms that disfigures many of the arguments on this whole question, and that we must avoid in discussing Prof. Clifford's doctrine. To illustrate the union of physical and psychical, which this doctrine, together with other allied doctrines, seeks to prove as a fact of nature, one sometimes sees used the figure of a "two-sided reality". One reads of the "two aspects," neural and psychical, physiological and psychological, objective and subjective, of certain phenomena. Especially, of course, are the facts of physiological psychology thus interpreted. Mr. Lewes was a great sinner in this respect, and Mr. Shadworth Hodgson's criticism of his language[1] seems to the present writer very satisfactory. But Mr. Lewes was not the only sinner. Mr. Bain has spoken[2] of the one substance with two faces, which we must study, "not confounding the persons nor dividing the substance"; as if the language of the Athanasian Creed were just the form of expression to throw light on a question of modern philosophy. Wundt, notwithstanding his own above quoted remark, has used[3] words that are open to a similar charge of vagueness, declaring "dass was wir Seele nennen das innere Sein der nämlichen Einheit ist, die wir äusserlich als den zu ihr gehörigen Leib anschauen". And, in fact, such phrases are as common as they are hard to understand. As a kind of shorthand expression for a whole system, such a phrase may, indeed, be justified. But if one intends it not merely as shorthand, but as the adequate formulation of a philosophic truth, then we must reply that the formula is no better than the *virtus dormitiva* of opium, or than the "abhorrence of a vacuum" as an explanation of the ascent of water in pumps. It is another case of our willingness to cheat ourselves with words.

This criticism may seem presumptuous; but it will not be

[1] *Philosophy of Reflection*, II. 40, ff.

[2] *Mind and Body*, p. 196.

[3] *Physiologische Psychologie*, 2te Aufl., II., 463.

hard to justify our assertion. The point is one of the greatest importance for all the following argument. This expression, "one reality with two sides, or faces, or aspects," is of course a figure. One thinks of the shield in the fable, or of a coin, or of a mountain. These things are the prototypes of this reality. Now what is, literally speaking, the reality in question? A nervous process is a coexistent, a necessary or an indispensable coexistent of a certain mental fact, *e.g.*, a sensation. Now this ultimate mystery is supposed to be philosophically explained by saying that the two facts are the inner and outer aspects of the same reality. Is this any explanation? We get back our fact, plus a worn out metaphor. Are we aided? "Inner and outer," what is the sense of these words? Is the sensation inside the neural process? "One reality"; but what is the one reality? Is it the physical process? No, that would be materialism. Is it the sensation? No, whoso thus believed would be one of those subjective idealists whom nervous physiology is there to refute. Is the reality then simply the sum of the two phenomena, the fact that they coexist? Then why talk of a mysterious one "substance," that must not be "divided". "Das ist das Hexen-Einmaleins." What we mean by material, what by mental phenomena, remains indeed a problem for further research. But how we are brought in the least nearer to an understanding of either problem by the introduction of this imposing "monistic" fiction, is hard to see. Pains we know, and motions we know, but what is this third Unknown, whereof a group of motions is the outer, and a pain the inner face? The old story is repeated; here as usual in metaphysical abstractions we find simply a new puzzle introduced to solve an old one. Nerve-activities were mysterious things, and their connexion with the mind likewise mysterious; hence in previous generations men heard of useful "animal spirits," which were responsible for the whole task of conveying impressions to the mind. One fiction is now passed, but the other cometh quickly; and the mental world is now to be glued fast to the physical by means of a patent preparation called a Substance. Have we never heard of Substance before in philosophy that we should all run to listen to the first proclaimer of a new one?

But then, it will be said, the conception of the one sentient and moving substance is after all but a brief expression for the physical fact of the union of the two sets of phenomena. No harm can come from a mere figure, from a fiction of language. No harm to be sure, we reply, if one is conscious of the fiction when one uses the words. But most seem to be unconscious of the fiction, and yet are highly pleased with the words. Not

merely to sum up scientific facts, but dogmatically to make insignificant assertions stand in place of facts, is the language that we have criticised often used. When Schopenhauer declared the Will to be "die Causalität von innen gesehen," he imagined that he had stated a very profound truth; and his "insight" was employed to make all natural laws the expression of Will. We may or may not accept his theory; but we shall not admit that the clever metaphor had anything to do with the proof thereof.

But still it may be maintained that we all distinguish mental and physical facts, that we commonly, and without fear of confusion, call them respectively internal and external facts, and that speaking of them as phenomena of one substance or reality is of use in pointing out their causal connexion. But in fact, as we must answer, this theory of the double-faced substance is founded on the denial of the existence of causal sequence between the physical phenomena on the one hand and the accompanying feeling on the other. This theory is framed especially to lay stress on the fact that physical phenomena as such cause physical, mental as such cause mental phenomena, or that at the utmost mental phenomena affect the physical, but not the reverse. The theory wishes to express the fact of the necessary coexistence of the two groups of phenomena, as distinguished from any influx that might be supposed to take place from the world of matter into the correlate world of consciousness. This fact, however, is, as we have seen, best expressed without any use of the terms of this ambiguous and dangerous theory.

The theory of Mind-stuff has therefore no magic to change one whit the nature of the problems of matter and mind. These problems may be better stated by the theory, but they cannot thereby be solved. For prove to us that the connexion between mental and physical phenomena extends throughout the whole universe, and that every motion of every atom is accompanied by some rudimentary psychical event; still you have not in the least altered our philosophical theory of things, nor thrown any light on the nature of the union of the two sets of phenomena. To say, "every atom is possessed of a little fragment of mind-stuff," tells us nothing about the nature either of the atom or of the mind-stuff. To say, "but the atom is the mind-stuff," or "what outwardly exhibits itself as a material atom inwardly shows itself as an elementary mind-atom"—this is to use the above condemned artifice of veiling a problem under a form of words. The *what* that thus is two entirely distinct things at once, is an indefinable and incomprehensible product of misused language. There is, by hypothesis a mental, and

there is also a physical fact. These are coexistent, and necessarily so. The Mind-stuff theory tells us nothing new about the facts or about their correspondence. It lumps together two sets of facts, and calls the aggregate by a new name.

II.

Yet perhaps it may be objected that the Mind-stuff theory does not so much assert the existence of an unknown something behind the two distinct sets of phenomena, as the actual identity of so-called physical phenomena with mental phenomena. An adherent of the doctrine in question might state his case thus :—"No mere artifice of language is intended. The theory means simply this, that there are, properly speaking, no real material phenomena at all. There are only mental phenomena, more or less complex. One does not speak of any substance apart from the phenomena. One means only that all real facts are 'ejective' facts. Just as we admit that there are minds behind certain material phenomena, *i.e.*, behind the voluntary motions of men and of higher animals, so the theory wants us to admit mental facts as the ultimate explanations of all material phenomena."

This statement seems more plausible than the last. I have thoughts and express these in word or in act. My neighbour's thoughts are affected by mine, but not by the direct knowledge of what is in my mind. To my neighbour my thought is known only through its physical expression. This is to him the phenomenon, of which the ejective truth is my mental state. So then with the atom. Its little fragment of mental life is expressed to the little fragment of mental life next it, to its neighbour atom, in the form of such a modification as collision or as attraction. But impenetrability is not the fundamental property of the atom. Impenetrability is only the atom's way of showing its own little mind, just as my way of showing my thought is by outward resistance to aggression, or by some other bodily act.

But then, if we are to be thus thorough-going, and to admit none but mental facts as ultimately real, can we explain the phenomena of the physical universe? Not, as will be seen, on the assumptions made by the Mind-stuff theory. That all existence is for consciousness the present writer fully believes. But this philosophical doctrine is not identical with the Mind-stuff hypothesis. For the believer in mind-stuff, existence and consciousness are by no means coincident. Mind-stuff, in its ultimate fragments, is wholly destitute of the complication the unity and the activity that constitute conscious existence. The

mind-stuff atom is of psychical nature, but unconscious; it is not, like Hartmann's Unconscious, already intelligent, but it is not necessarily even a part of a consciousness. Therefore in arguing against this anomalous product of modern ingenuity one is not arguing against Idealism or Phenomenism as properly understood. Mental facts are the ultimate reality; but not such mental facts as these of the Mind-stuff theory.

But let us examine the consequences of the theory. There are no realities except fragments of mind-stuff. These are joined in complex masses to form minds; or again are more simply combined to produce inorganic phenomena. All grades of complexity exist, from the elementary bodies up to man's brain. Together these bits of mind-stuff are responsible for the whole world of phenomena.

But pause. What is left of the world of phenomena? There are only fragments of mind-stuff, and these are ultimate and simple. We must think them after the analogy of our own simplest mental states, *viz.*, of our sensations. They are far simpler than even these, and, no doubt, far less intense; but they are analogous. What follows?

First, there is no real space remaining. Space-relations are unreal and illusive. For if there are only sensations, or ultimate simple psychical phenomena analogous in nature to our simplest sensations, only fainter and simpler, then there is no possible meaning in saying that there is any space. There are no doubt in many of our simpler states of consciousness, in all the data of at least two of our developed senses, space-elements constantly present. But in these cases there is existent a complex consciousness. Space-knowledge is a part of this complex, inconceivable without it. Ultimate mind-elements, conceived after the analogy of our simplest sensations, have a time-element, and an intensity as well as a quality. But of a space-element in each, and of space-relations such as distance and direction among these elements, who shall venture to speak? What meaning would there be in Euclid's axioms if the world were composed wholly of elementary sensations not grouped into conscious minds? Are pains in themselves above or below other pains? Is an emotion of love or of hate distant an inch or a mile from other emotions? When I listen to a tragedy or read a treatise on metaphysics, are my thoughts in spatial relations to one another? And even when sensations are for us grouped into wholes in space, as the sensations of touch that come to me from this table are grouped, do we properly say that the elementary sensations apart from the consciousness that groups them are already in space? We shall be certain then that at least some mind-stuff is non-spatial. And where then

shall we stop? Plainly space-relations will belong not to the noumenal mind-stuff atoms, but to the fashion of perceiving determined by the nature of consciousness. I then perceive the non-spatial mind-stuff, and perceiving give it the space-form?

But I, too, am a mass of mind-stuff. And this brings us to the second consequence of the doctrine. One mass of mind-stuff perceives other masses. Or again, since the law of interaction is supposed to apply to inorganic physical phenomena as well as to the higher phenomena, every atom of mind-stuff affects other atoms. But how is this conceivable? When I perceive a mountain, there is an alteration in the mind-stuff of which I consist. New stuff is added, or old is removed, or the disposition of what is present is changed. But how? The ultimate fact for my consciousness is: The mass of mind-stuff that constitutes me is altered. How can this change be effected by any change in other mind-stuff? The answer of course will be: The alteration of one fragment or mass of mind-stuff through the action of another fragment or mass is an ultimate and mysterious fact, whose laws are to be studied, but whose reason is unknown. But still one asks, in what way is the change to be conceived? And the answer is not easy. Suppose, first, that the ultimate atoms of mind-stuff are absolutely unchangeable in nature, and incapable of destruction or of increase in number. So to think these atoms, would be to use the analogy of the more rigid atomic theories of the physical world. Assuming this view for a moment, let us consider the result. The mind-stuff atoms cannot be destroyed or created or changed in nature. Hence only their grouping can be altered. Some change, rhythmic or otherwise, in the grouping of the mind-stuff atoms in the thing I see, produces an alteration in the grouping of the mind-stuff atoms in me, or perhaps takes from or adds to my stock of mind-stuff atoms. The result is that change in me which is called a perception of the object. But how or in what sense is a new grouping of mind-stuff atoms conceivable? A change of grouping is conceivable if the things grouped are outside of one another in space. Their direction and distance may be altered in an infinite number of ways. But here is the mind-stuff atom *a*, and the other atom *b*. These atoms are, it is to be remembered, mental facts and nothing more. They are "ejects". How can these change their relation to one another, *i.e.*, their grouping? The groups *ab* and *ba* could be formed, *a* might be conceived above or below *b*, distant an inch or a league from *b*, or what else you will, so long as *a* and *b* were things in space. But *a* and *b* are here not things in space. What can distance or precedence or above or below mean, when applied to relations between two independent mental facts?

A very easy question, some one may reply. If to any consciousness *a* first is present and then *b*, a very different total impression may be made from the impression produced by the appearance first of *b* and then of *a*. Pour water into a previously-prepared glass, and the result is easily distinguished from the result of first pouring the water and then preparing the glass. No doubt; but see the admission thus made. Given the consciousness in which *a* and *b* are grouped, given the one reflective judge, before which *a* and *b* appear, and then the grouping in time of *a* and *b* may be important. But that developed consciousness is, for the Mind-stuff theory, not yet deduced. Here is a complex of mind-atoms. What can be meant by any grouping of them whatsoever, and *à fortiori* what can be meant by that complex grouping known as a consciousness? This is the very question at issue. Each mind-atom for itself exists in time, and so, if you choose, co-exists with all the others. Thus there is a grand aggregation of all. But where is any union into groups? Where is any meaning for the words "alteration of grouping"? How is, then, any law conceivable by which one group is connected with any other? How can a change of one group affect any other?

It is plain all this talk about the grouping of mind-atoms is nothing but a barren figure of speech. We are used to space-relations, and to laws connecting one group of material particles with other groups. Now, however, for the sake of solving certain problems, we have determined to assume once for all that in reality there exist, not material particles, but ultimate feelings or mind-atoms, fragments that might be joined into a complete consciousness, but that may exist apart therefrom. Now, when from these atoms we try once more to build our world, we are debarred from using the ideas derived solely from the experience of matter and of space. These mind-atoms are not hard and mobile, they are not at various distances from one another, one is neither above nor below another, nor in any other like relation. Such words applied to mental phenomena are simply nonsense. Our first problem is this: to find ways of conceiving how these ultimate mind-atoms may be so related among themselves as to produce and explain the phenomena observed in the appearances of material things. Our answer to the problem is thus far wanting. And wanting, we affirm, the answer must remain. For the only groupings of such ultimate unchangeable mental facts conceivable to us are groupings in and for a consciousness. Without a consciousness mere sensations can never be definitely grouped. Given a "looking before and after," a comparing, discerning activity, a reflection, and then different groupings of mental facts may be conceived.

Even then, however, the grouping would imply something besides a mere dead co-existence of ultimate atoms of mind. The grouping would imply attention, and so change of intensity, reproduction, temporary or total destruction of the mind-elements concerned; and all this, if you suppose only ultimate co-existent atoms, is not conceivable.

But one may change ground and say that the mind-atoms are not wholly unchangeable. In fact, if one does not do this, it is indeed hard to see how even such a material phenomenon as the collision of two atoms is to be interpreted into the language of mind-stuff. For physics there is nothing inconceivable in the phenomena of collision, granted only the conceivability of matter and of motion. But for the Mind-stuff doctrine the case is different. What motion may mean, or what, if "motion is mind-stuff," the matter over and above the motion may mean; what a bit of mind-stuff may experience when its velocity changes, when its direction of motion changes, when another bit of mind-stuff is in its path (think of the "path" of a sensation);—all these questions, puzzling enough in themselves, would be in all seeming absolutely beyond solution, if one may not assume some continual alteration in intensity or in quality in the ultimate mind-atom itself. Suppose, then, that the world consists of fragments of mind-stuff whereof each one is endowed with a capacity for the change, within certain limits, of its own intensity and quality. Suppose, also, that by some pre-established harmony (other source is hardly well conceivable) the alterations in one atom are uniformly connected with alterations in other mind-atoms, according to fixed laws. Then, indeed, the world of mechanism, of dead matter and motion, could be in a manner conceived. That is, one could understand how to each simple phenomenal mechanical effect, *e.g.*, a blow or a push, there corresponded some noumenal alteration in the mind-stuff atoms. Even the law of the conservation of energy would be capable of expression in terms of such assumed elements. Since velocity and mass would be interpreted in terms of ultimate alterations or permanences in the mind-atoms, all laws about velocity and mass could be expressed in the same terms. But consciousness? Here we pause, not a little doubtful. Is consciousness a mere aggregation of atoms of feeling?

All consciousness is a synthesis of many elements into unity. The consciousness of the parts of a rose or of a house exists more or less vaguely in my mind. In saying, "This is a rose" or "a house," I actively combine these parts into a whole that is more than their sum. The parts are, as parts, mutually indifferent. Add to the present sensations any number of faint revivals of past sensations, and you have still only an aggregate of

disjointed discontinuous elements, until in the "unity of apperception," continuity and wholeness shall be granted to the aggregate. If *a, b, c, d, e,* &c., are separate and really distinct elementary feelings, say of colour, I see not wherein shall consist their continuity as mere elements. How out of them shall there arise in me the perception of a continuous coloured surface? Physiological psychology can here be of no aid. That science supposes consciousness and outside reality as ultimate realities, and seeks to determine the relation of sensations, simple and complex, to external reality, to nerve-processes, and to consciousness, and in like manner to determine the relations of consciousness to external reality and to the accompanying nerve-processes. In no wise does this science undertake to deduce consciousness from what is not conscious, any more than it seeks to make external reality appear a product of mind. But the Mind-stuff theory seeks to build up consciousness, with all its activity, out of unconscious elements. The theory can only succeed in case consciousness can by any possibility be shown to be an aggregate of elements in themselves unconscious. Can this be done? Our aggregate of colour sensations, is that the perception of a coloured surface? Add to the aggregate any number of associations with past sensations of movement or of touch: have you yet the idea of a coloured surface? No, make the associations as complex as you will, they remain side by side, indifferent to one another, a discrete manifold of materials for consciousness, but not yet a consciousness. But in conscious life we do not find discrete manifolds of sensation that simply come and are passively received. Sensations are always grouped into wholes, and the wholes are known by and in "acts of unity". "This is a rose," I can say. "This is a complex of colour sensations with associations of movement, touch, and smell," I can also upon reflection say; but then, too, I have grouped facts of consciousness into a new unity: I have not succeeded in getting an aggregate of separate sensation-elements. And so consciousness is always more than a sum of sensation-elements; while, given a sum of sensation-elements, there is no way of seeing how by themselves alone they can ever become a consciousness.

In nature it often happens that a manifold of distinct parts results in an unity that is not a mere sum. So every organism, so even every chemical compound, exhibits properties qualitatively different from the properties of the constituent parts. But how are these properties of the compound manifested? Only in the behaviour of the manifold towards the world external to itself. In itself a mass of parts, the whole behaves as one when it comes into relation with other things. The compound molecule is a sum of atoms. But in its behaviour as a molecule

towards other molecules it shows new qualities, aud so is more than a mere aggregate. The organism is an aggregate of tissues. But in its behaviour in the presence of the outer world it shows adaptation and an integration of parts, so that we call it one, not a mere aggregate. A mere combination is, when regarded solely in and for itself, never an organised whole. Aggregations are organised wholes only when they behave as such in the presence of other things. A statue is an aggregation of particles of marble; but as such it has no unity. For the spectator it is one; in and for itself it is an aggregate: just as, to the consciousness of an ant crawling over it, it may again appear a mere aggregate. No summing up of parts can make an unity of a mass of discrete constituents, unless this unity exist for some other subject, not for the thing itself.

But consciousness is, in and for itself, an unity, containing a multiplicity of parts, but not wholly made by the summation of these parts. Now, given a sum of mind-atoms, how shall consciousness arise out of them? This complex is to be one. How? In its behaviour towards the external world? Then it would seem one to a higher intelligence, contemplating its behaviour, not to itself. In its symmetry or perfection of structure? Here again only another being, contemplating its perfections, would regard it as one. In and for itself then? But how? The elements *a*, *b*, *c*, *d*, *e*, &c., are in some mysterious way together, not in space (for they are feelings), nor in another mind (for they themselves are to constitute the whole of some individual mind), but somehow together. And they form in and of themselves but a single consciousness. To this end, is *a* the one element that *apperceives* all the rest? Is *a* then the one unity? Then *a* is the consciousness in question, and not a mere elementary sensation; while *b*, *c*, *d*, are superfluous or at least accidental constituents. But are all of them the unity? This is impossible; for by hypothesis these elements are in and of themselves many. There is then no unity, no consciousness possible. And let no one answering say: When I look into my consciousness I find nothing there but an aggregate of impressions arranged in certain forms. No doubt that is all you find —besides that which you have chosen to call "I" and the act of "looking". Apart from the unity of the consciousness of any moment there is doubtless nothing but multiplicity. But this unity itself, what of that?

The present writer does not wish to seem unduly fond of entities of any sort. This "self-consciousness," this "unity," these "forms" in which impressions are arranged, no doubt all of them need further analysis and explanation. No doubt it is overhasty to make them the ground for assuming any spiritual

entity, any soul-substance or absolute self or other figment as their cause or substratum. Metaphysicians have doubtless abused these facts of consciousness; but the facts are none the less there. And the present essay wishes to point out that, be the explanation of the facts what you will, the Mind-stuff doctrine fails to give a possible explanation.

Our objections to the hypothesis of Prof. Clifford are then: First, that if the theory is understood as offering the current "monistic" explanation of the connexion between physical and psychical facts, *viz.*, the explanation that these facts show different sides of one reality, then the theory is merely a sort of scholasticism revived, and substitutes a dead word for a living problem. Secondly, that if by the theory is meant that physical things are nothing but aggregates of ultimate simple mental realities, these realities or feelings, if conceived as unalterable, fail to explain anything and, even if conceived as changing in particular fashions, still fail to explain consciousness. Thirdly, that, since all changes of grouping, of distance, of direction, are excluded from the world of reality by the hypothesis in question, all change will be change in the interior of the individual mind-atom, and that thus the theory is committed to a method of regarding the world which will at best involve us in enormous difficulties as soon as we try to explain actual phenomena.

The importance of the questions involved has detained us longer over this theory than some may think necessary. And in truth mere refutation is unprofitable except as preparing the way for positive results, results either already in our grasp or still to be sought. The present writer is confident that a theory can be suggested as a solution of this problem, a theory that shall be at once idealistic and critical, just to the facts of consciousness and adequate to the demands of the philosophy of nature. Such a theory, if formulated, will not deal in entities nor in substances, spiritual or material, but will simply and accurately state what we mean and imply when we assert the distinction and the connexion of physical and psychical phenomena. To the statement and proof of such a theory, the writer hopes to devote his efforts in a future paper. At present he is content with formulating a purely negative result.

JOSIAH ROYCE.

V.—GEORGE ELIOT'S ART.

Those who have been most profoundly impressed with George Eliot's writings are apt to think and speak of her as a discoverer and enforcer of moral truth rather than as an artist, and those who enjoying, in addition, the great privilege of her personal acquaintance, were able to see how directly the writings conveyed the ideas, purposes and longings which held undisturbed sway in her own life, must always recognise in these writings the message of a great and inspired teacher.

Yet it is certain that her message is transmitted through a medium which is now commonly recognised as a form of art; and this being so, the very fact that in her writings the didactic element is that which gives the colour and determines the quality of the after-impression, naturally raises the questions: How far has she fulfilled the conditions of the art which she has selected? Has she striven to compass the ends of art, the delight in things as wonderful, beautiful, sublime, or mirth-provoking, and in their far-reaching harmonies, so far as they are compassable within the limits of the particular art which she has chosen? That her work raises these questions, criticism has distinctly seen. What it has not so clearly seen is that her achievements raise the wider questions: What is the special distinguishing function of the modern art of fiction? What is its relation to the other arts? In what way is it most likely to reach a result at all commensurable with that of the sister arts, poetry and the drama? I need hardly say that it is this side of George Eliot's writings which I propose to deal with here. I am not concerned with appreciating her exact rank as a novelist. I wish only to estimate the conception of her art which is not only latent in every work, but which now and again comes to the surface, shaping itself into an explicit utterance.

In attempting this I frankly admit the risks of bias. In the eyes of the psychologist the works of George Eliot must always possess a high value by reason of their large scientific insight into character and life, and one who has derived so many suggestive observations from her writings will naturally be disposed to rank these highly in all respects. Yet I would fain believe that in spite of this danger one may succeed in estimating her art objectively, that is to say, by a reference to the possibilities of fiction as a whole.

In order to answer the question here raised, we must, it is plain, try to detach from the works of George Eliot those characteristics which seem to be fundamental, not accidentally

related to peculiarities of personal feeling or experience, but belonging to her very conception of the art of fiction.

In trying to determine the essential qualities of George Eliot's art we shall do well to consider separately what is most characteristic in her choice of material or subject, and in her artistic treatment and mode of presentment. The two will be found to be organically connected, yet there is an obvious convenience in dealing with them apart.

Again, in inspecting the material with which our artist chooses to work we must adopt the further well-recognised distinction between the characters and the story. Here we have to do with things still more closely united than are subject and mode of treatment. Yet the conventions of criticism have long since fixed the distinction as a convenient one.

Looking, then, first at George Eliot's gallery of portraits what strikes one first perhaps is their homeliness. She might be called the homely novelist *par excellence.* She has taken her men and women for the most part out of English society, most purely English because of its provincial seclusion, and out of those intermediate grades which are best known to the majority of her readers as to herself. And what is true of the class is true of the individuals. They are quite ordinary characters, fair specimens of their class, representing the level of intellectual attainment and moral culture of the average Englishman. They are in no sense preternaturally endowed with admirable excellences: nor are they extraordinarily weighted with unlovely vices. One may add that the author has expressly avowed her deliberate preference for such common familiar examples of the human species. It is enough here to refer to the long passage in *Adam Bede* (Book II., ch. xvii.) *à propos* of Mr. Irwine, which might have been headed *apologia pro mea arte.*

As with her *dramatis personæ* so with her action. The story which she unfolds before us is that of lives which are in no extraordinary sense eventful, in which external agitations, the upheavals of wonted surroundings are no more frequent than we should probably find them to be in the homely experiences which are here mirrored for us. We have presented to us "fragments of lives," in which the forces at work lie almost entirely within the familiar characters and the familiar circumstances which she paints, and her plots are just the development of these latent forces.

At first sight it would seem as if George Eliot, in thus choosing her field, must have placed herself at an enormous disadvantage. By so doing, it may be said, she has cut herself off from the splendid effects of Scott, from the stately beauties of

Thackeray, from the thrilling horrors of Balzac and Dickens, and from the quaint picturesqueness of Auerbach. What is familiar is apt to pall, and the region of romance is supposed by most persons to lie as far as possible from everyday life. Yet the fact is incontestable that she has by means of her homely stories awakened a vivid interest. The feeling produced may not be exactly the same in quality as that excited by other styles of novel; but it is as full and satisfying. To explain this effect of the familiar and the commonplace seen through the medium of her art-presentment is to discover the secret we are in quest of. I may provisionally give what I hold to be the explanation in her own words. "In natural science," she writes, in *The Mill on the Floss*, "I have understood, there is nothing petty to the mind that has a large vision of relations, and to which every single object suggests a vast sum of conditions. It is surely the same with the observation of human life." This I hope to make clear in the course of the following examination.

Considering first her characters, we find that by common consent they have reality and life; and this not because they remind us of familiar realities, but because they are so presented to our imagination as at once, and so long as we recall them, to stand out as solid shapes.

To account for this effect of vivid presentment, criticism, content with its current phraseology, probably remarks: Her figures are sketched with a firm hand, well defined, and consistently filled in. This is hardly enough for the psychologist who would discover the deep-lying conditions of the effect.

To say that in fiction a character has body and life is to say that it has individuality. Now it seems self-evident that an individual differs from a typical creation in so far as it gives us an equivalent for that sum of physical and mental peculiarities which constitute an individual object in real life.

But art is necessarily limited in its presentment of individuality. In vain would the novelist seek to give the reader a full account of all the characteristic mental qualities composing an individual mind, whether directly by description, or indirectly by illustrating their effects in speech and action. Nay more, it would be impossible to exhaust even the physical peculiarities which make up the visible individual. Balzac's attempts to exhaustively describe his personages, their external conditions and belongings, is a sufficient illustration of the futility of this aim. The individual combinations of nature being thus in a manner infinite quantities, it follows that the novelist in constructing his ideal men and women must fall back on some shorter device.

There are different ways of individualising the figures which move in the world of fiction, and these may be said to correspond roughly to different degrees of knowledge in real life. I may happen to have once met the rector of a particular village, to have noticed certain striking physical peculiarities, and to have inferred from his conversation that he was a person of narrow and dogmatic mind. Henceforth he remains for my mind, in a sense, an individual, defined as to his place of residence and official position, also having a measure of physical distinctiveness. On the mental side, however, he has no individuality: he is nothing but the representative of a class, nothing but a type.

There is a style of fiction, by some ranked very highly, which presents its characters in this bare typical form. Their *physique* may be described with some fulness, or hit off in a few words, thanks to the presence of an almost abnormal oddity or two; but their *morale* is nothing but a psychical fragment torn from the organism of which it is a living part.

A higher kind of artistic characterisation aims at giving something of the complexity of the mental organisation. We see the inner as well as the outer side of the living personality. We recognise a well defined form of character constituted by a combination of a number of qualities, intellectual and moral, in certain proportions of energy or intensity. We recognise too that this vital structure stands in intimate relation to that particular set of circumstances which forms for the individual in question his distinctive environment. This fuller kind of individuality answers to the larger knowledge which fair opportunities of observation supply in actual life. It presents to view only a certain number of features, but such as by their size, the space they occupy, would form the chief content of our mental representation of the individual if he were known to us in real life.

Now George Eliot's characters are individualised in this latter way. Much more attention is given to their *morale* than to their *physique*, though this is not neglected. Her feeling with respect to those mechanical abstractions, those disjointed members of the psychical organism which do duty as characters in respectable novels, but which almost make the thoughtful observer of human nature shudder with a sympathetic sense of mutilation, is pretty clearly expressed in the second chapter of *Adam Bede*, when she refers to the theory "that nature has theatrical properties, and with the considerate view of facilitating art and psychology 'makes up' her characters so that there may be no mistake about them".[1]

[1] A point of some interest to the psychologist arises in connexion with the genesis of George Eliot's art. The fact that her best stories, like those

Nobody who has read George Eliot will fail to understand the seemingly paradoxical remark that she delights in exposing the inconsistencies of character. Nothing is more characteristic of her work than this, and yet nothing seems to offend more directly against the current canons of art. But after all it is only in appearance that she offends. For in detecting the inconsistencies she harmonises them by means of a more profound intuition of moral unity. To her vision passing below the surface, the human mind is something which must appear eminently inconsequent to a shallow observer. The dominant impulses, or what she calls in one place "the persistent self," are crossed and complicated by antagonistic forces which may for a time seem to carry the day: meanwhile the persistent self, we clearly perceive, "pauses and awaits us". Maggie Tulliver, one of her finest creations, I think, was nothing but a bundle of inconsistencies to her brother. Yet the reader who looks deep enough sees these alternations of passionate longing and renunciation to be the outflow of one complex individuality.

This deeper and more complex basis, these organic roots of personality, are rarely known even to the individual himself. They include obscure moral tendencies, nascent forces, which, though they mingle with and help to colour the currents of thought and action, never come into the distinct light of self-consciousness, because circumstances have never supplied the stimulus needed to develop their full energy. And this explains the fact that George Eliot lays so much stress on the sub-conscious region of mental life, the domain of vague emotion and rapid fugitive thought.

Another thing strikes us in the build of George Eliot's characters. A character divorced from its surroundings is an abstraction. A personality is only a concrete living whole when we attach it by a net-work of organic filaments to its particular environment, physical and social. Our author evidently chooses her surroundings with strict regard to her characters. She paints nature, less in its own beauty and less in its universal suggestiveness, than in its special aspect and significance for those whom she sets in its midst. "The bushy hedgerows," "the pool in the corner of the field where the grasses were dank," "the sudden slope of the old marl-pit making a red background for the burdock"—these things are touched caressingly and lingered over because they are so much to the "midland-bred souls" whose history is here recorded: so much because of cumulative recollection reaching back to the time

of Charlotte Brontë, draw their materials from early personal observation, is highly suggestive with respect to the conditions of the development of the most vivid kind of creative imagination.

when they "toddled among" them, or perhaps learnt them by heart standing between their father's knees while he drove leisurely". And what applies to the natural environment applies still more to those narrower surroundings which men construct for themselves, and which form their daily shelter, their workshop, their place of social confluence. The human interest which our author sheds about the mill, the carpenter's shop, the dairy, the village church, and even the stiff uninviting conventicle, shows that she looks on these as having a living continuity with the people whom she sets among them. Their artistic value is but a reflection of all that they mean to those for whom they have made the nearer and habitually enclosing world.

A similar remark applies to the social surroundings. The figures and groups which constitute the human background for George Eliot's portraits are chosen not so much with a view to a sufficient variety of form, and those powerful effects of contrast and relief which are perhaps illustrated most distinctly in the novels of Victor Hugo, though these ends are not wholly lost sight of. They are given us as an essential, the most essential, part of the belongings of the leading characters, as that part of the environment which has most to do in determining the final form which the congeries of crude impulses making the germ of individual character shall assume, in fixing the habitual channels of the emotions, the direction of the aims, the form of the obligations. The well-drawn family groups which appear in the middle distance of George Eliot's pictures, as for example the aunts and uncles of Tom and Maggie Tulliver, with their strongly marked family character embodying the most potent traditional influences of the miller's house, have their chief *raison d'être* in this motive to exhibit the *dramatis personæ* in their most important and fruitful connexions. And a like consideration accounts for the presence in the dim background of her paintings of a representation of that larger community, with which all of us hold more intimate relations than we are wont to suppose, which helps to mould us by its unwritten laws, and the influence of which becomes more distinct in proportion to the prominence of our social position.

George Eliot's characters then, are eminently concrete and individual. We can only understand her effect if we keep this fact steadily in view. And yet in a sense it must be allowed that they are representative and typical creations. And by this I mean not typical of an abstract moral category as Molière's characters.[1] It would be to give a very poor impression

[1] It may be said that characters like Hetty Sorrel or Rosamund Vincy, as contrasted with Gwendolen Harleth, are thus typical owing to their ex-

of Adam Bede to say he was the type of an independent village artisan, or of Mrs. Poyser to say she stands for the shrewd industrious farmer's wife. Adam Bede is not an average specimen of his class. It would be nearer the truth to say that like Shylock he represents a fuller development of certain characteristic traits of his class. Yet even this is misleading. The characters of a novel can be much more filled in than those of a drama can be, and George Eliot's figures are too individual to allow us to resolve them into representatives of classes, even such specialised concrete classes as rural English clergymen, and so on. Mr. Irwine, Mr. Debarry and Mr. Farebrother are alike true examples of their class, yet representing very unlike moral sub-varieties of the class. So Mr. Lyon is by no means a representative dissenting minister, nor is Mr. Casaubon a typical scholar. In the case of all her more developed characters we are unable to describe and classify in this easy fashion. Nevertheless they are representative, though not of a ready-made class: they illustrate the action of a definite set of external conditions on a complex variety of character. And in proportion to our insight into the reality of the moral structure and its relation to its surroundings, will be our recognition of this higher kind of representative function.

To say that the characters of fiction are real, is to say that they are understood. Now a character is only understood when the spectator is able, in a measure, to make it his own by assimilating himself to it at the moment in active sympathy. To do this, however, is to recognise the character as natural and human. The highest creations of art satisfy this condition; and George Eliot's men and women are allowed by all to be essentially human.

This large humanity that shines through George Eliot's essentially individual characters, is due, first and mainly, to that fact of organic complexity which we feel to be the deepest thing in our own structure, and to be that which distinguishes living beings from mechanically constructed puppets. This complexity, moreover, embraces the large primal forces of our nature which constitute our *moral* character. And this for two reasons, first of all, because you cannot go far down in constructing a character, without lighting on these bases: and secondly, because to George Eliot the life-story, as we shall presently see, is essentially the moral conflict in its ever varying outer form.

The other consideration, which accounts for the large human significance of George Eliot's characters, is that she exhibits them

ceptional simplicity. Yet it is worth noting that both these examples of a vain selfish girl show an unexpected responsiveness to the ennobling influence of a large-hearted woman.

to us in the making. We see by a reference to their remote beginnings in early life, when impressions are most powerful and enduring and habit takes its shape for life, to inherited and traditional influence, and to the intricate play of circumstance, how they have come to be. And in seeing this we cannot help reflecting that they are but our common human metal poured into life-moulds of particular shapes, and so wrought into the variety of forms which we see; while to reflect thus, is at least dimly to recognise the fact that we ourselves, thus acted on and conditioned, should have taken some such shape as theirs.

In this way, then, George Eliot's characters, by the very fact of their concrete fulness, their organic completeness, without ceasing to be individuals and supremely interesting as such, disclose to the eye of reflection the elementary tissues of our common humanity.

I have observed that the distinction between the characters and the plot of a novel is only a rough distinction. This remark applies with special force to George Eliot's stories. These appear in a remarkable degree, when regarded from one point of view, as the outcome of her characters, from another point of view, as the formation of these characters.

The theme of George Eliot's stories is human experience, taken in all its depth of joy and suffering. She does not depict for us merely the surface-play of life, the outside show of social intercourse, but interests us in its deep-lying issues. In brief, her theme is essentially that tragedy, of as contrasted with that of comedy. She herself has told us that her aim is to disclose the tragedy which lies below the surface of commonplace lives. The effect of her novels is due to a vivid sympathy with the changeful experience of the men and women whom she presents. She appeals to our pity and terror, through a sense of a common human destiny. This must be steadily kept in view if we are to appreciate her art justly.

Modern tragedy differs from classic in its conception of the conditions of human nature. We have substituted for the old idea of an external divine necessity (*ἀνάγκη δαιμόνων*) an internal psychological necessity, for an objective Retributive Justice (*νέμεσις*) a subjective Nemesis, and our author stands among the first in recognising the rigorous laws which connect happiness and misery with our habitual thoughts, impulses, and volitions. Not that she overlooks the other factor, external circumstances. On the contrary, she has a keen eye for the far-reaching consequences of what look like most trivial accidents, as for example, the particular turn of a curve in woman's lip or neck. But the outer circumstances effect what they do effect only because they

fall in with certain pre-existing moral conditions. And, be it remembered, the most potent of external circumstances are the relatives and friends with whom we hold habitual intercourse: what has most to do in colouring our lot after our own actions, is the conduct of these. The most striking situations in her stories, *e.g.*, the relation between Dorothea and Will Ladislaw after Mr. Casaubon's death, are seen thus to follow from the actions of others. Consequently the characters fill the chief space in her stories. These last are, in a special sense, the product of the first. For the same reason the dialogue assumes almost a dramatic prominence in her novels.

This way of looking at human life necessarily brings into prominence its moral aspect. The severe conflicts of life are all forms of the struggle between private inclination and social obligation. And our author, by taking a large view of the results of conduct, in the lives of others as well as our own, naturally sees the moral problem emerging on all sides, in the humblest phases of the routine of commonplace life. She excites our tragic pity and horror by a distinct and powerful presentment of this moral collision, this clash of individual wish and regard for others, which is but the higher self, whether this be a single person, as a friend, a brother, a mother, or a group, as a family, or race. She gives a gravity to the 'insignificant' parts of life, by showing from what small beginnings of plodding endeavour or idle neglect the lasting weal or woe of our closely and intricately interlacing individual lives takes its rise.

I have said that George Eliot's stories may just as well be called the production of characters, as their products. And this follows from the fact that they exhibit the process of moral conflict with its varying result of temporary debasement of nature, followed by a lasting remorse, as in the history of Arthur Donnithorne; of utter demoralisation, as in the case of Tito, or Bulstrode; or of upward spiritual development, as in the history of her well-known heroines. In all cases, the moral experience results in a modification of character, in a readjustment of impulse to outer conditions; and it may be added that these processes of moral decay and growth frequently result, as in the case of the young Tulliver, or of Harold Transome, in the development of unsuspected germs of character, which easily give a look of *historical* inconsistency to the characters in the eyes of superficial observers.

The recurring and principal variation of this theme of moral transformation is the somewhat cruel operation of clipping the wings of young aspiration, and of bringing the nature of the ardent aspirant into a state of adaptation to the proximate realities of life. This appears, not only in the lives of her pro-

minent heroes and heroines, Maggie Tulliver, Dorothea Brooke, Felix Holt, and Daniel Deronda, but also in the less conspicuous histories of Harold Transome, Philip Wakem, Lydgate, and so on.

And now, perhaps we have carried the analysis of George Eliot's art far enough to understand how she manages to reach so fine an effect, by means of what seem such rude instruments. Her characters live for us; we know them as individuals, while in thus knowing them we recognise in them new embodiments of familiar human traits. Their fortunes awaken a vivid interest, which gives to the story the force of a tragic action. And this large outflow of sympathy with commonplace men and women is brought about by the author's presentation of the intrinsic and hidden relations of human experience to human character, of the dependence of joy and of suffering on the humblest processes of everyday conduct. In a word, she evokes a tragic interest out of common lives, because she sees and makes us see the far-reaching results of insignificant things, because she has and gives to us a "large vision of relations". If this is a fair account of George Eliot's central conception and artistic aim, we may by help of it understand some of the peculiarities of form observable in her workmanship.

Since it is her object to present to our imaginative intuition a complex interplay of moral forces, passing phases of that intricate reciprocal action of individual on individual which makes up the chief part of what we call human life, it is natural that she should confine herself to short periods of the life-history. Every reader of fiction must have been struck with the shortness of the time represented in stories like *Adam Bede*, *Felix Holt*, *Middlemarch*, and *Daniel Deronda*, with the dramatic compression of their plots.[1] Just as her novels are dramatic in observing narrow limits of time, so they are dramatic in moving within narrow limits of place, and the artistic justification of each is one and the same. Only by keeping to a definite locality, with its fixed set of influences, physical and social, could the effect of the extraneous and accidental be excluded.[2] And only by taking a short period of the life-history could the gradual evolution of the tragic situation out of small

[1] The *Mill on the Floss* is an exception. It is to be added that there is a gap of sixteen years between Parts I. and II. of *Silas Marner*.

[2] It belongs to this that our author so rarely transports any of her characters out of the locality selected. The few exceptions to this, as the self-imposed exile of Arthur Donnithorne, and the long absence of Harold Transome, do not affect the truth of the observation. *Daniel Deronda* deviates from the older type of novel in the expansion of locality, as in many other respects.

beginnings, and the growth of character under the continuous play of an intricate system of outer forces, be set forth in all their successive stages.

In the second place, we are now able to see how it is that George Eliot gives her readers so much of what is called psychological analysis, and generally of scientific reflection on character and life. By psychological analysis in fiction is meant the unfolding of the inner germs of action, the spreading out before the eye those complicated activities of imagination and desire, impulse and counter-impulse, which are conduct in process of becoming. Inasmuch as it is her capital artistic tenet that human action is complex, in its origins as in its issues, it follows that she must in order to exhibit this complexity lay much stress on those subtle internal processes of preparation and rehearsal. "Men like planets (she writes in *Daniel Deronda*) have both a visible and an invisible history." Our author lifts the invisible history to a prominent position, partly because the visible history as soon as it becomes intricate cannot be understood apart from it: partly, too, no doubt, because the inner history, the lyric flow of inaudible emotions, and the keen dramatic oppositions of invisible desires and aversions, beliefs and doubts, has a deep interest of its own for the sympathetic mind.[1]

Precisely the same considerations appear to me to explain the presence of so large a quantity of quasi-scientific reflection on character and life in George Eliot's writings. A writer who is content to depict simple actions, springing from the most familiar impulses or conjunctions of impulses, and exhibiting, in consequence, the relations of cause and effect in a very obvious manner, can count on the rapid apprehension of the sequences by the unaided imagination of the reader. The process of apprehension hardly involves any conscious reflection: the understanding of the events approximates in its directness and rapidity to a sense-perception. If, however, the action grows complex, involving an intricate and unfamiliar combination of influences; if, further, these are related to special individual characteristics, the full understanding of which takes us back to those first years of existence when the most abiding impressions are received and the foundations of life-habits laid,—this rapid

[1] It may be doubted whether George Eliot has an excessive leaning to psychological analysis for its own sake, as Balzac for example seems to have. It is noticeable that in introducing her characters she commonly gives us, in place of a mere dissection, a history of the character. The way in which Lydgate's character is thus set forth as a product of past experience (*Middlemarch*, Book II., ch. XV.) is an excellent illustration of this 'genetic method' of presentation. Compare the introductory sketches of Mr. Irwine, Harold Transome, and Daniel Deronda.

intuitive apprehension is no longer possible. In order to seize the complex action with its whole cluster of relations, the reader needs to have the intertwining twigs untwined, and each separate growth referred to its proper origin. But such understanding progresses slowly, and involves reflection on the collective results of our past experience. That is to say, we only see the particular relations of cause and effect in the instances before us by consciously recalling the generalised results of past observation. Now the ordinary reader if left to himself is not equal to all this. Our author comes to his aid by supplying the general truth, the fruit of numerous observations, which at once imparts a look of familiarity to the new moral event. The particular sequence of motive and action is intuited at last, but only when thought has intervened with the light of a general reflection.

This I take to be the first reason for the large infusion of psychological reflection in our author's writings: it is necessarily involved in her selection of the intricacies of life and character for artistic representation. Yet it is not the sole reason. Long before George Eliot had exercised us in her subtle kind of reflection, dramatists, ancient and modern, and novelists too, had accustomed us to see behind the single concrete presentation some universal truth, some pervading law. And the reason is plain enough. The mind that reflects is in actual life naturally carried on from the isolated facts of perception to the uniting law which at once explains them, and is illustrated by them. We reach a large intellectual satisfaction this way, not simply because all complete understanding of the individual fact implies a reference to the general truth, but because the re-apprehension of a universal truth is itself gratifying, and because the most vivid mode of such re-apprehension arises just in this way of recognising a new concrete illustration of the truth.

What distinguishes the reflection of George Eliot's writings from that of earlier works is, first of all, its penetration, its subtlety, and its scientific precision. And it is this fact which renders her even to the trained psychologist a teacher of new truths, truths to which he would never have found his way deductively, though after her large experience and accurate observation have discovered them for him he can easily connect them with familiar principles. In the second place, George Eliot's thoughts on man and life are much more closely interwoven with the narrative than those of earlier novelists of whom Fielding may be taken as a type.[1] It is this

[1] See the playful reference to Fielding's chats with his readers at the beginning of the fifteenth chapter of *Middlemarch*.

fact which accounts for the exquisite intellectual pleasure which her works afford the thoughtful mind. She brings the rays of thought to bear directly on the particular phenomenon; or, to put it the other way, she lets us see the general truth, the universal law, directly shining through the particular phenomenon as through a transparent medium.

And here we naturally take up the point touched on at the beginning of our inquiry, the place of George Eliot's moral teaching in her art. It is commonly agreed that she is a moral teacher. But what exactly is meant by this? Ethical instruction may consist in one of two things: either in setting up some ideal to be aimed at, in enforcing some exhortation; or, in the second place, in affirming a relation between events, actions and their consequences. That is to say, it may be teaching which falls into the imperative or into the indicative mood. Mr. Carlyle is a moral teacher in the first sense: George Eliot rather in the second sense. She does not exhort though she might find occasions enough. Nor are her stories like the *Tendenz-romanz* seen to obviously aim at teaching some practical lesson. It is only dramatically, through those characters which, we can easily guess, reflect her own views of life's chief good and highest aims, that she can be said to enforce a moral end.

Our author is a moral teacher in the sense that she holds the mirror up to nature in such a way as to disclose to view the finer threads which bind together the inner and the outer life, the early and the late experience, the individual and the common lot. Choosing as she does the tragic side of common things, she must, as we have seen, bring into prominence those connexions between events on which ethics has to ground its rules. And her characteristic bent of reflection serves to throw these moral issues of everyday events into yet clearer light. In this way no attentive reader of George Eliot can fail to learn from her more respecting the continuity of our moral being, the lasting effects of all that we do, even of that which we forget,—the truth that "our deeds are like children that are born, to us, they live and act apart from our own will,"—the critical character of the first overt act in fixing the direction of habit, the shortsightedness of selfish passion, and so on.

Our author teaches moral truth much more implicitly than explicitly. How little of definite ethical doctrine is to be found in her writings may be seen by one or two considerations. To begin with, it would, I think, be impossible to say whether her conception of the highest good is hedonistic or not. In the sacrifices of personal ambition to social obligations which she often depicts, does she mean that the good ultimately realised is

simply moral perfection or along with this a chastened happiness, receiving its chief nutriment from the satisfaction of orderly affections? That we should hesitate to say, shows plainly enough that George Eliot gives us a life-like picture of the moral struggle, not a theory of it.

In the second place, we can learn from her own words that even supposing the highest end of conduct had been perfectly clear to her vision, she would have been unable to give definite rules for compassing it. Her estimate of the cut and dried morality fixed in the rigid maxims of opinion, the morality of the public opinion of St. Ogs, for example, was not a high one. "Moral judgments (she writes) must remain false and hollow, unless they are checked and enlightened by a perpetual reference to the special circumstances that mark the individual lot." To her mind the ordinary individual life would have lacked one of its chief elements of tragedy if it had not been weighted with that problem which each of us, with but scanty aid from moral codes, has to work out for himself: What ought I to do here and now? And believing this, seeing here as elsewhere, the infinite complexity and variability of things, she could not give us any definite moral prescriptions.[1]

The moral influence of George Eliot works less by didactic agencies than by a subtle sympathetic contact of the reader's mind with her own. What constitutes more than anything else our author's 'subjectivity,' the infusion of her own personality into her writings, is the mood of compassionate tenderness touched with playful indulgence in which she seems to look out on her ideal offspring, that attitude of a large maternal charity which implies a perfect comprehension of everything that is seen. The reader is aware of the presence of a wide and yet discriminating sympathy with mankind, of an intense philanthrophy which is ready to spy the grains of ethical gold in what looks like rubbish, and to cherish every single member of the human family as something worth studying, something that will offer points of attraction for our sympathy. The reader who becomes infected with this wide sympathetic insight, is probably gathering the most precious moral fruit of her work.

In this analysis of George Eliot's art I have been compelled to omit all reference to the style of thought and expression which characterises her writings, her vein of trenchant humour or genial wit with its subtlety of conceit, its novel way of

[1] It is probably the same fine sense of the complexity of events which gives to her utterances respecting the tendencies of progress a look of indecision. It would not be easy to say from her stories whether she regards the effects of modern social transition as a good or an ill: each feeling is represented in her writings.

envisaging things, and her habit of seeking scientific precision in her illustrations and figures of speech. All this is not only highly interesting as connected with the peculiarities of her mind, but offers material for psychological reflection. Yet since it is less obviously connected with her fundamental conception of art, I have thought best to pass it by.

I have tried to get at the organic structure of George Eliot's art. In doing this I have necessarily been guided by the wish to explain her acknowledged influence. Yet the reader may say that I have all through been really begging the question of the artistic quality of her writings. Is this representation of the familiar facts of human nature and life, however rich its suggestiveness for thought, in any proper sense art? Must it not after all fall rather under the description of moral lesson, or at least be classed with those literary species, such as the allegory and the fable, which are intermediate between works of art whose object is beauty, and works of instruction whose object is truth?

Disputes respecting the æsthetic value of individual works of art often involve obscure ideas of what is meant by art. There are those who by repeating the shibboleth 'Art for art's sake,' would seem to aim at erecting art into a kind of metaphysical absolute, 'a thing-in-itself' out of all relation to the minds which are to be impressed and delighted by it. A little common sense reflection will convince anybody that art must be conceived not as an abstraction, but as constituted by its relations to human susceptibilities, and when this is seen the only question which can arise is: Whose feelings in particular are we to set up as determining art? To this question the best answer I know is a double one: The feelings of the many-sided catholic man; and as they present themselves in the most highly developed man.

As we have seen, George Eliot's writings are distinguished from novels in general by the fact that they owe a principal part of their effect to the satisfaction which comes by way of intellectual activity, and of the exercises of the social sentiments. In other words, while they please as other stories do by a variety of concrete characters, by the rhythmic interplay of these individual characters, by a picturesque presentment of life, they give us as a supplementary pleasure, a keen recognition of truth of presentation, a large contemplation of the laws of human nature and of life, and an intensified moral consciousness. And, let it be observed, this added result is gained through the medium of a representation of concrete life. The elating vision of the universal truth, the sympathetic acquiescence in the necessities of life, does not present itself to the

reader's mind as the end which is directly aimed at, and of which the particular story is offered simply as an illustration. On the contrary, these quiet satisfactions are recognised to be a kind of after-effect which remains when the more exciting stage of the impression produced by the particular presentment is passing away.

It appears to me that to say that such pleasurable activities have no place in art enjoyment, is to arbitrarily circumscribe the susceptibilities to which art may appeal. It may be, to speak after the manner of our author, that we must modify our definition of art to suit the complexity of the facts. The catholic man, whom we take as our authority, is among other things an intellectual and moral being. In his habitual survey of actual life there are naturally awakened just those currents of reflection which bring at once sadness and peaceful resignation. And he would feel any artistic representation of life to be inadequate which did not carry on the mind to the same kind of reflection.

Nay more, if he is a man not only of large and varied emotional capabilities, but also of high culture, representing the advanced wave of man's intellectual and moral development, he will be likely to regard this part of the effect of fiction as the most important and indispensable. If what we call social progress can be seen to do anything, it is surely to raise the intellectual activities into the main constituent of our mental life, and among all emotions to deepen, expand, and vivify our social feelings.

George Eliot, in her large and exact conception of life, in her truthful and instructive presentment of it, is touched by the scientific spirit of her age. Her fine sense of the determinateness of human events, of the continuity of our experience, and of the gradations by which character develops, marks her off as the writer of stories who has moved furthest onward in the direction of contemporary ideas.

The same conclusion which is reached by means of this somewhat abstract conception of a typical modern reader, would, I think, be arrived at by a consideration of the peculiar nature of the art of fiction in relation to the other arts, illustrated as this appears to be in its historical developments. Without attempting to discuss so large a subject at the end of an essay, I would suggest that such a line of reflection teaches that fiction, employing the homely vehicle of prose, has to keep specially close to the realities of things; and that, wanting the charm of a beautiful sensuous form, it is compelled to seek the richest and most varied interest in its subject-matter: an end which is only secured when there is a truthful presentment, when the

pleasure comes less by way of surprise than of clear understanding of relations, and when the deeper moral issues of our experience are to some extent, at least, opened up to view.

I am not raising the question what is the relative value of George Eliot's style of fiction. I am only trying to make out that it has its rightful place high up among the developments of the art. Her idea of taking the homely and the familiar, and making it yield an abundance of emotional interest, leaves ample room for other aims, as that of the historical novelist with his greater sweep of action and his more splendid *mise en scène*, of the narrator of the quaint picturesque experience of those further removed in space or in the social perspective, and even of the painter of manners who seeks with fine touches to depict the surface play of familiar contemporary life. These in their way, and she in hers, while producing each their special kind of artistic effect, combine in paying the same homage to truth.

JAMES SULLY.

VI.—NOTES AND DISCUSSIONS.

MR. SPENCER'S PSYCHOLOGICAL "CONGRUITIES" (II.)[1]

I wish next to make some observations on Mr. Spencer's handling of Realism *versus* Idealism. Whatever we may think of his success, the effort is so well sustained, that it will permanently continue one of the historical landmarks of the question. In the previous edition of the *Psychology*, the question occupied 200 pages; in the new Part, entitled "Congruities," two new chapters (21 pp.) are added on the subject—"Co-ordination of General Analyses" and "Final Comparison".

A sketch of his line of argument, however brief, is necessary to make criticism intelligible. Fortunately, his habit of providing summaries, as he goes along, makes this task, if not easy, at least less difficult than with the generality of philosophical writers.

We begin with the original handling. Chapter I. is headed "The Final Question". This is confined to stating the work to be done:—"We have to take up the vexed question of Subject and Object. The relation between these, as antithetically-opposed divisions of the entire assemblage of manifestations of the Unknowable, was our datum. The fabric of conclusions built upon it must be unstable if this datum can be proved either untrue or doubtful. Should the idealist be right, the doctrine of Evolution is a dream." Chapter II. is on "The Assumption of Metaphysicians"; which is, that a long and

[1] Continued from MIND XXII., 266-70.

indirect process of gaining the truth is to be preferred to a short and direct one. Chapter III.—"The Words of Metaphysicians"—is an examination at some length of the phraseology first of Berkeley, and next of Hume, with this result:—"What has been said above discloses the significant fact that *language absolutely refuses to express the idealistic and sceptical hypotheses.* No manœuvring enables it to bring up by themselves the states of consciousness overtly referred to, while excluding the states of consciousness referred to by implication. If the words are used, as they must in fact be used by every one, metaphysician or other, with all the intrinsic and extrinsic connotations they have acquired; then we find that separately and jointly they imply existence beyond consciousness". "Language has, in fact, been throughout its development moulded to express all things under the fundamental relation of subject and object, just as much as the hand has been moulded into fitness for manipulating things presented under this same fundamental relation; and, if detached from this fundamental relation, language becomes as absolutely impotent as an amputated limb in empty space." Chapter IV.—"The Reasonings of Metaphysicians"—advances a stage. "Let us allow their language to pass without comment: assuming that the words they use can be used without implying all that is to be disproved. And now supposing this, let us examine their reasonings and see whether they can make out their case." He examines successively Berkeley and Hume; and next discusses Kant's doctrine of Time and Space, and Hamilton's positions respecting Space, and respecting the doctrine of Perception. On them all he finds—"To escape from a difficulty of thought, half-a-dozen impossibilities of thought are offered by way of refuge. And once more, the test of true cognitions, which is alleged to be final, is, without any assigned reason, assumed to be worthless in respect of particular cognitions." Chapter V.—"Negative Justification of Realism"—introduces us to a series of proofs "that Realism rests on evidence having a greater validity than the evidence on which any counter-hypothesis rests. By such proof the realistic belief is negatively justified; inasmuch as no belief having a better justification exists." Chap. VI. is—"The Argument from Priority". This is that "the Realistic conception is everywhere and always, in child, in savage, in rustic, in the metaphysician himself, prior to the Idealistic conception; and that in no mind whatever can the Idealistic conception be reached except through the Realistic one. Realism must be posited before a step can be taken towards propounding Idealism". Chapter VII. is—"The Argument from Simplicity". The mental process which yields Realism is simple, and short; the process said to yield Idealism is long, involved and indirect. Chapter VIII. is—"The Argument from Distinctness". Deliverances of consciousness given in the vivid terms we call sensations, excite a confidence immeasurably exceeding the confidence excited by deliverances given in the faint terms we distinguish as ideas. Chapter IX. is—"A Criterion Wanted". This begins an investigation continued through the two following chapters into the ultimate test of truth. Chapter XI.—"The Universal

Postulate"—is the contention with Mill as to the doctrine of the Inconceivability of the Negative of a given truth, which is set in contrast to Mill's ultimate test of simple experience as the final basis. One sentence would seem to bring the controversy to an end. "The inconceivableness of its negative affords a far higher warrant for a cognition than does an enumeration of experiences, even though exact and exhaustive, for the reason that *it represents experiences almost infinitely numerous in comparison*". That is to say, the inconceivableness is after all a result of experience. Chapter XII.—"The Test of Relative Validity"—makes out that, of conflicting conclusions, that one must be the most certain which involves the postulate the fewest times. Chap. XIII. is—"Its Corollaries". Putting to any one the question—What is the content of consciousness in contemplating a book?:—"So long as he refuses to translate the facts into any hypothesis, he feels simply conscious of the book, and not of an impression of the book—of an objective thing, and not of a subjective thing. He feels that the sole content of his consciousness is the book considered as an external reality. He feels that this recognition of the book as an external reality is a single indivisible act." This is set in opposition to Ferrier's statement that the object of knowledge is the object with the addition of one's self, and to Hamilton's well known version of the act. "Reason is utterly incapable of showing the unreasonableness of those primary deliverances of consciousness which yield Subject and Object as independent existences". Chapter XIV.—"The Positive Justification of Realism," prepares for XV.—"The Dynamics of Consciousness"—or comparison of propositions in respect of the different degrees of strength of cohesion between subject and predicate. "Mysterious as seems the consciousness of something which is yet out of consciousness, the inquirer finds that he alleges the reality of this something in virtue of the ultimate law—he is obliged to think it. There is an indissoluble cohesion between each of those vivid and definite states of consciousness known as a sensation, and an indefinable consciousness which stands for a mode of being beyond sensation, and separate from himself." Chapter XVI.—"Partial Differentiation of Subject and Object"—gives the psychological analysis of the distinction; the leading terms of which are "vivid" states and "faint" states; which are set forth with all the circumstances that accompany each. All this will be perfectly acceptable to the Idealist; indeed, the advent of Idealism was what led to such a minute analysis. The only difference that can arise is as regards the selection, relative prominence, and order of the circumstances. Chapter XVII.—"Completed Differentiation of Subject and Object"—brings out this result, namely, that the vivid aggregate comes to have associated with it in consciousness the idea of Power. Chapter XVIII.—"Developed Conception of the Object"—contends for two things as beyond consciousness:—(1) the unknown correlative of the vivid state we call pressure; (2) that which permanently binds together those infinitely-varied vivid states. (Among all the changes there is something

permanent; an unvarying *nexus*. The word "existence" means this permanence.) Chapter XIX.—"Transfigured Realism"—states what modifications the popular or crude realism needs to be philosophically defensible. This admission is made to the Idealist, after describing his system as "a fabric of pseud-ideas," "a disease of language":—"Nevertheless, we must not forget that these complicated aberrations of reason have been the concomitants of a legitimate, and indeed, necessary criticism. Crude Realism claimed as part of knowledge an unlimited territory which transcends knowledge. In showing how unwarranted is this claim, Anti-Realism went to the extreme of denying to Realism all territory whatever. Metaphysical controversy has been the settlement of the limit." The last paragraph runs thus:—"Finally, then, we resume this originally-provisional assumption but now verified truth. Once more we are brought round to the conclusion repeatedly reached by other routes, that behind all manifestations, inner and outer, there is a Power manifested. Here, as before, it has become clear that while the nature of this Power cannot be known—while we lack the faculty of framing even the dimmest conception of it, yet its universal presence is the absolute fact without which there can be no relative facts. Every feeling and thought being but transitory—an entire life made up of such feelings and thoughts being also but transitory—nay, the objects amid which life is passed, though less transitory, being severally in course of losing their individualities, quickly or slowly; we learn that the one thing permanent is the Unknowable Reality hidden under all these changing shapes".

In the new Part, what chiefly calls for notice is a discussion of the alternative positions, as stated thus:—"I shall here assume, as the only possible alternatives, either that there is existence beyond consciousness, or that there *is no* existence beyond consciousness". Taking the last first, he infers from it these absurdities:—Consciousness is unlimited in extension; it is infinite in time; all cause exists within it; eternally existing, it is at once creator and created. Take next the alternative, that there *is* existence beyond consciousness. The implications are—the two existences are both active; they bound one another; causes and their connexions in the one must differ from effects and their connexions in the other. "Thus we are brought again, by another route, to the doctrine of Transfigured Realism. We are shown that, while the opposed doctrines are consistent neither within themselves nor with other beliefs, this doctrine is internally consistent and consistent externally with our beliefs at large." A few more expressions need to be quoted. "Though consciousness of an existence beyond consciousness is inexpugnable, yet the extra-conscious existence not only remains inconceivable in nature, but the nature of its connexion with consciousness cannot be truly conceived." "Ever restrained by its limits, but ever trying to exceed them, consciousness cannot but use the forms of its activity in figuring to itself that which cannot be brought within these forms": "the only possibility is a

symbolical filling up of it—ending an unfinished relation by an unknown term".

The argument thus imperfectly summarised is in every way worthy of the author's philosophical resources and reputation. I will now endeavour to search out its weak points, from the Idealist's point of view.

1. My first observation is that Mr. Spencer would have done well to have stated clearly, at the outset, the initial difficulty that first led Berkeley and Hume to challenge the commonly-received Realism. At the conclusion of his long argument, he mentions this in a sentence or two; but, he never alludes to it in his adverse criticisms of Berkeley and Hume. I think the discussion should start with a full, clear and emphatic statement of that difficulty. To this would naturally follow the admission that there is something wrong in the vulgar Realism, and a disclaimer of that Realism, and of all that could be said in its favour; which would farther necessitate the putting forward of the purified or corrected doctrine, which the author meant to maintain in preference to the Idealist's solution of the difficulty. I shall have to show the serious disadvantages, to both sides, of leaving to the last the announcement of the author's Transfigured Realism. All the positions taken up in the debate—common Realism, its difficulties, the Idealist's reconciliation, the modified Realism—should stand forth prominent from the very commencement, and perpetually re-appear, in the train of the argument. As it is, the reader is scarcely, if at all, made aware, till the end, that there ever was the smallest necessity for disturbing the peace of mankind by such a controversy. This may not render the author's arguments invalid; but it has an indirect bearing upon these, which I will presently point out.

2. My second remark is that, although to treat the *history* of the question, we need to go back to Berkeley and Hume, yet to *argue* it effectively, we should prefer the more recent statements of the Idealist's case. There are numerous expressions in both these earlier speculators that no Idealist of the present day would bind himself to defend; while it would be a waste of controversial strength, to go back and show, in opposition to Mr. Spencer's criticism, that their language has not been fully exhibited by him. It is quite enough to say that he does not set forth the primary difficulty of Realism. I consider it useless to begin the attack on Idealism farther back than Ferrier's well-known article on Berkeley. That alone would give considerable occupation to the supporter of Realism, and he would achieve no small credit by rebutting all its arguments. Mr. Spencer quotes only one sentence from Ferrier, and that a very vulnerable one; of the vigour and closeness of Ferrier's onslaught on Realism, he seems to have no knowledge. If it were only for his inimitable piquancy of illustration, he ought always to be adduced, when the question is argued with any degree of fulness. As a remark by the way what could be finer than this?—"There are the two things—(1) matter *per*

se, and (2) matter *cum perceptione*. You ring the bell for No. 1, but No. 2 always answers."

3. The foregoing observations are merely preliminary, and do not intimate any deficiency in the author's chain of argumentation. The next remark brings me closer to the point in hand. It is, that I admit, to the fullest degree, the incompatibility between Idealism and ordinary language. The whole tissue of our prevailing speech is Realistic; it supposes a distinction between Object and Subject, wide as the poles asunder: and refuses, as the author remarks, to lend itself to Idealism. The first attempts to find an expression for the Object, in terms of the Subject, were deeply resented; and were necessarily inadequate. It took a long time to find terms broad enough to cover both; we have had to give "consciousness" an enlarged meaning, co-extensive with mental life, we have had to invent the couple of terms—Object and Subject, in order to obtain a basis for an idealistic terminology. Such enlargement has been found a convenience to the Realist also; and Mr. Spencer abundantly avails himself of it, all through his *Psychology*.

In conceding all this, however, we do not concede the futility and absurdity of Idealism. It simply means that there is a very great convenience and satisfaction, in stating the broad contrast between Object and Subject in terms that imply their independent existence. The convenience is not limited to popular topics; it extends also to the Sciences. We have Object Sciences and Subject Sciences; and no error arises anywhere by treating the matter of the Object world as if it were absolutely independent of the Subject. Allowance is made for certain cases of Sense-illusion: but this does not necessitate our going the length of Idealism, although when hard pressed they are incompatible with the popular Realism. I say no more on this at the present stage, as the language-difficulty will re-appear.

4. To come now to the author's chain of argumentation. He conducts us through several steps to the establishment of his Universal Postulate, by which he shapes the mode of appeal to consciousness in the last resort. Comparing the two hypotheses, he finds that Realism has the preference, by Priority, by Simplicity, by Directness, in this appeal. His Universal Postulate is well known, and I do not mean to contest it, as expressed by him; the more so, that he admits it to be an equivalent of accumulated experiences. I may, however, make one remark as to his mode of appealing to consciousness. I must put in a rider or qualification to this appeal, which I think is not sufficiently taken into account.

Granting all that is said as to the evidential value of Priority, Simplicity and Directness, I must observe that our greatest certainties are not based on a single appeal to consciousness. A single act of consciousness will testify to a difference, felt there and then, and likewise to an agreement; but this is too isolated to make a general truth. We need repeated acts of consciousness to establish anything that involves the future; we need to compare various experiences to be sure of any truth, however axiomatic. We soon discover that

there are sources of error and illusion, even in what seems our immediate revelation of consciousness; we have to learn to trust a recent recollection, and distrust a remote one. So that, after all, the final appeal to consciousness is not a simple, indivisible, infallible, irresistible judgment, in any matter that involves general truth. There must, in all important cases, be a considerable range of conscious experiences; and he that makes too short work of this process of comparison, may easily fall into error.

I doubt if Mr. Spencer, in insisting so strongly on the value of a simple reference to consciousness, has ever done full justice to the fallacious tendencies of the human mind. I allude more particularly to the *over-generalising* tendency; the haste to extend to the distant, and the future, an experience of the present. That this is the parent of innumerable errors, is notorious; and it mixes itself with all our primary deliverances, if these presume anything beyond the individual experience of the moment. It is almost impossible for the untutored mind to give a judgment limited to the fact before it. The tendency has an immediate bearing on Realism; for, with or without adequate reason, we presume the continuance of what is now present; we readily fill in all gaps in the perception of things, by their continued existence out of perception; and that continued existence we confidently shape in terms of perception. We may be right, or we may be wrong in this instance; but the tendency itself is a copious source of error, and therefore cannot be adduced as evidence, in any matter of importance.

I perfectly concur with Mr. Spencer in thinking that there is more certainty in a chain of one link, than in a chain of many links. I merely contend that the very shortest step is not authenticated without comparison of instances, to avoid illusion and mistake. Multiplication of conscious acts in this direction (they not being a dependent series) is not a source of weakness but a source of strength; and the greater the issue, the more imperative is the multiplication.

I do not pretend to exhaust this aspect of the question regarding the mode of conducting a final appeal to consciousness. I should have to examine in detail the author's various criteria, and his examples of their application; and as I cannot do this, I make no claim to refute his elaborate scheme of argumentation by this circumstance alone.

5. A very serious consideration now calls for notice. What is it that Mr. Spencer's accumulated evidences and testimonies—the structure of language, and the appeals to the ultimate criteria of truth—go to establish? Is it Crude Realism, or Transfigured Realism? Apparently, it is Crude Realism.

Before Berkeley, no other Realism was thought of; and Mr. Spencer may justly claim for his Transfigured Realism the merit of novelty. The spontaneous workings of human thought brought forth the Crude type; and Mr. Spencer's series of justifications are all in favour of that type. In his refutation of Idealism, he sets against it, not his purified, but the crude, doctrine of Realism. He does not

bring forward the corrected form till the very last; as if to show that he could overthrow Idealism under any circumstances. But his overthrow of Idealism is accompanied with the setting up of Realism as commonly received. His arguments, if good for anything, are good for proving that form of Realism, which, nevertheless, he has himself to abandon, for the same reasons that led to its abandonment by Berkeley and the Idealists, namely, it being self-contradictory. If such be the character of the doctrine, all its supports must stand condemned; if these appear to uphold an erroneous doctrine, they must be intrinsically fallacious.

Here then is his difficulty. Is he entitled to receive testimonies and evidence in favour of a doctrine in one form, and pass them over to the doctrine in an altered form? Of course, everything depends upon the nature of the alteration; it may be immaterial, or may be material. Still the difficulty has to be faced; the change has to be explicitly vindicated. It should be articulately shown, that the bearing of the testimonies is not affected by the transformation. I doubt if it would be easy to show this. I rather think that Crude Realism owes all its ready acceptance to its crudity; to that very ingredient that Mr. Spencer in the end purges away from it. Certainly the testimony of language is in favour of the crude form. Even the final test of "inconceivability of the negative," as applied by the mass of mankind, has always yielded this form.

The reader will now understand the gist of my first observation, namely, that Mr. Spencer should, at the outset, have placed before us, Common Realism, Idealism, and Transfigured Realism; and should have carried all the three doctrines with him, in applying his ultimate criteria of truth. It was his duty to make a complete refutation both of Common Realism and of Idealism, so as to come at last to the one true doctrine of Transfigured Realism; a doctrine equally opposed to both the others. "Crude Realism holds that, apart from a perceiving consciousness, the object possesses those attributes by which it is distinguished in perception." This is wrong; but, unless I have overlooked important statements, we are not told that it is wrong, as the argument proceeds; we are asked to admit the testimony of those that hold the doctrine in this shape. We do not possess their testimony to it in the other shape,—"the independent existence of the object as unperceived". This is a most essential modification; it introduces a transcendental element into what was considered a plain matter of fact, and commended itself to the ordinary understanding on that very ground.

6. I say no more upon the author's long argumentation in disproof of Idealism. I do not conclude that it is a failure; I only suggest what seem to me points of weakness, demanding to be reconsidered and buttressed. I next proceed to review the addition that he has now given to the argument in the form of a comparison of the two opposing views—Idealism and purified Realism. This portion has the advantage of being short and incisive.

He assumes as the only possible alternatives—that there is, or

is not, existence beyond consciousness. Now, speaking from the side of Idealism, I take exception to the wording, as begging the point in dispute. The statement "There is no existence beyond consciousness" is not what an Idealist would make. Still less would any Idealist accept it as interpreted by Mr. Spencer to imply, that consciousness is infinite in space and in time, that it contains within itself all causes, and so on. The Idealist has great difficulties to contend with, in expressing his position, in discovering an outlet from the self-contradiction of Crude Realism. Language has always been in the Realist's favour; the path of the Idealist is hard. But he would never affirm bluntly—"There is no existence beyond consciousness." What he does say is, that we know only what we perceive; that whatever things may be in the universe, they are known solely in the qualities given in consciousness. Anything out of consciousness can be thought of, simply as it shows itself when it returns to consciousness. Conscious properties make up object and subject alike; notwithstanding there is a vast and inerasible difference between the two classes. Consciousness contains its Object states and its Subject states: all knowledge lies within the compass of these. The Idealist speaks not of Existence, but of Knowledge; the Existence that he postulates is known Existence. He makes allowance for things being temporarily out of consciousness; but he chooses to speak of these only as they appear when they return to consciousness. He considers it illegitimate to cognise the Object world (the only part in dispute) in any other form than as given in consciousness. The limitations thus imposed are most painful and unsatisfactory to the common sense of mankind, and probably ever will remain so. Yet they may be stated in a way to evade all such inferences as Mr. Spencer would draw from the doctrine of Idealism. Consciousness does not necessarily contain all causes within itself; it contains all causes that can be made the subject matter of cognition—that present themselves to the human intelligence.

Compare now the other position—that there is existence beyond consciousness; that there are causes at work that can never come into consciousness; modes of connexion that can never be conceived by us: these existences are the permanent world in the intervals of conscious wakefulness.

If this position were offered as simply one solution of the self-contradiction of Crude Realism, I would give it the most respectful consideration. I am too well aware of the difficulties of the case to refuse any feasible hypothesis. Desperate situations need desperate solvents; Idealism and Transfigured Realism are both of this character; and I am fain to compare their respective demands upon our credence. It is only when Mr. Spencer endeavours to compel, by force of logic, an unconditional renunciation of the one in favour of the other, that I venture to remonstrate by saying that neither is a subject of demonstration or of irresistible compulsion. He is well aware, by this time, how unpalatable to the minds of most men is the doctrine of an unknowable substratum of our known universe. He has heard the sort of criticisms that it is exposed to: clothing ignor-

ance in the forms of knowledge, giving cognoscible predicates to an incognoscible subject, and so on. Only with the greatest difficulty, can the doctrine be kept free from the vice of the old Realism—self-contradiction; indeed, many people do not hesitate to charge it with that vice. I am not of that opinion. It is a most uncomfortable position to be thrust into; there is no denying that much; but then so is Idealism. Apparently we are not destined to find comfort in any of our well-meant attempts to render philosophically self-consistent the plausible Realism of common sense. If I can satisfy myself that the addition of an incognoscible region of things to the cognoscible, is the least of two or three painful alternatives, I will accept it with resignation, and, if possible, with cheerfulness.

7. I wish next to examine the author's two components of Existence beyond Consciousness, in order to see how far their assumption is an absolute necessity to us. The first is an unknown correlative of our consciousness of Resistance. This is Body or Matter. I entirely concur in the view that the feeling of Resistance "is the primordial, the universal, the ever-present constituent of consciousness"—that it is "the mother-tongue of thought". The question then is—Must we assign an unknown counterpart to this feeling, because of its primordial or fundamental character? Mr. Spencer brings out the necessity by the illustration of making the two hands grasp each other, which gives birth to a double feeling—effort in the one hand, and pressure in the other. Each hand is at once a seat of consciousness as active power, and of consciousness of pressure as the effect of this power. From this he passes to the case of an inanimate thing pressing upon the hand, and says that under that pressure we are still unable to suppress from consciousness the representation of the pressure occurring in it as the correlative of resistance offered to it by our muscular effort. In short, in the situation of being pressed upon, we are compelled to think of something pressing, and of that something as more than a phenomenal appearance, say of a book in the hand; as being a permanent unknown cause, which in the act of perception is clothed with known or conscious attributes. With the greatest possible wish to discover the pinch of this necessity, I cannot say that I am convinced of it. The whole fact seems to me capable of being stated in terms of the knowable, the conscious, or the phenomenal; namely, as a concurrence of the state called feeling of pressure or resistance, with a number of other states of visibility, &c.; and I do not see how the question of Realism *versus* Idealism is raised by the situation. The argument from the pulling of the two hands would seem to imply that an inanimate thing must also be a conscious thing; it would amount to the personification of the inanimate powers, which, as a poetical fiction, is so common and so prolific of emotion. But the transition to a resisting object beyond consciousness is not made out in a way to reach my comprehension.

The other component of Existence beyond Consciousness is to me far more intelligible, and also far more cogent. It is the necessity of something to bind together those infinitely various states that we call

states of the Object, to secure their regularity and their recurrence to consciousness, in the way that we find them. This assumption is, I admit, in the highest degree relevant, which I could not say of the other. Every one of us readily feels that our impressions are transient things, yet they come up again with astonishing regularity, in the appropriate situations; and that the easiest way of figuring to ourselves this regularity, is to suppose a permanent something, with all its parts well knit together, so as to repeat our conscious states with the fixity that we actually find. This is ordinary Realism. There is no permanence within consciousness, there is nothing but regularity of arrangement in the moments of recurrence. The permanence, therefore, must be out of consciousness.

Of course we cannot have a *nexus* in the abstract; there must be things to be held together. The previous assumption of formless resisting matter must be the ground-work; and upon it the regularity must be embodied. The universe out of consciousness is made up of these two constituents. Matter and Order are the two elements of the ultra-phenomenal world: they are indescribable in themselves, as being unlike anything in consciousness, yet they are in some way the equivalents of consciousness. I expressed doubts as to the necessity of the first assumption—Matter or Body *per se;* but if the second—the *nexus*—is unavoidable, it must carry the first. What, then, shall we say to the evidence adduced for this *nexus*, or rather to the noumenal matter of the Universe, united by noumenal bonds? I reply at once, that it fills up the void left by consciousness, and seems to supply an assurance of the reproduction or recurrence of conscious states, over and above the facts of their recurrence. It does not furnish any new facts, or help us to any laws that we cannot read in our conscious experience of the Object world. The facts and the laws are all in the sphere of consciousness; the certainty of these, the evidence of their being forthcoming, is helped out, to say the least of it, by their existtence, though veiled, in the interim or suspension of consciousness. We can easily suppose all the conscious beings of the universe becoming unconscious, or falling asleep at the same moment. If the universe of being were absolutely dependent on consciousness, it would pass into nothing; yet we believe it would really survive. We believe that the material universe is fitted to survive the extinction of conscious life; we see no impossibility in the hypothesis that it existed before conscious life; and when we put the question—In what form it so existed, Mr. Spencer gives as the answer—an indescribable matter united in fixed laws, which, at the proper moments, appear to consciousness, as conscious matter with conscious laws and properties. There is something at first sight satisfactory in this provision for permanence in the framework of things; and the merits of the supposition, to my mind, stand much more upon its suitability to fill an undoubted blank, than upon any irresistible compulsion of logic, or appeal to the Universal Postulate. Only when placed side by side with the Idealist hypothesis do we see its full force. What we still ask is—Does it, by its necessities, drive the Idealist out of the field?

What has he to say to the difficulty that it meets, to the void that it supplies?

I must answer this by re-stating the Idealist's position, as to the permanence of the object world. He would say, in the first place, that the *nexus* is a convenient fiction for expressing certain facts, namely, the facts of the Object world, in their recurring regularity. It has no evidence of its own, it is beyond the reach of evidence; the facts are the evidence, and, being so, they cannot give greater strength to the supposed noumenal bond than they already possess. The *nexus* takes from them its power, and merely gives back what it got. There is thus really nothing gained in point of evidence. If the *nexus* had an independent testimony, a support *aliunde*, it would be a hypothesis of much higher rank, it might even be considered as proved. But except Mr. Spencer's disputable necessity of thought, it has no such extraneous support. The Idealist, therefore, says—I take the facts of Consciousness as all the evidence I possess for the permanence of the object world; I should be glad to have more, but I do not see where it is to come from. In the constancy of the past, I read the constancy of the future; that is to say, conscious states will recur to me, and to other conscious beings, as they have done before. This is the utmost of my real knowledge: all else is hypothesis or fiction that merely repeats what I know as actuality or fact. I do not deny, I fully admit, that even though consciousness in all conscious beings were to lapse for a million of years, still, on its reviving, it would encounter the same uniform groups of sensations as I do now. I do nothing to strengthen the assurance of this bold stretch, by saying that the object world is in existence, although dormant, in the interval. If it is in existence, I know nothing about it, except in the regular way of its coming into some one's consciousness. In like manner, I am bound to admit the possibility of all that is claimed for the evolution hypothesis; that is, the existence of an Object world, in advance of Subject minds. My theory of perception is large enough to cover this possibility also; although I grant that I may be unsuccessful in so expressing it as to give universal assurance. I see a considerable superiority, on this point, in Mr. Spencer's permanent Unknowable.

8. It seems to me important to state clearly to ourselves, what it is we are differing about; and, in particular, whether the difference is in doctrine, or in expression merely. I think Mr. Spencer would allow that it is not a doctrinal difference; that the Idealist concedes everything requisite for maintaining the framework of things, as we find them; including the pre-conscious past, and the post-conscious future. The Idealist may be inconsistent in this; his language may be inadequate to sustain his intended meaning. Yet the question is no less, on that account, a question of expressing or rendering our situation as percipients of the so-called outside world. There are other questions, in nearly the same position, although none of equal magnitude. It has always seemed to me, for instance, that the Free-Will difficulty is very much a difficulty of expression; the difficulty of

reconciling the two attitudes—looking at another mind, and looking at our own. Greater refinements in the capability of language may resolve such difficulties, without resorting to extraordinary assumptions; in the case of Perception, a mode of expression may be found that gives the fact, the whole fact, and nothing but the fact; that proceeds only on what we know, and yet satisfies us respecting the permanence of the universe in its fullest conception. I do not say that the Idealist has yet compassed this achievement; and, therefore, I consider humility becomes him, and that he should have his mind open to alternative views, which may, in the meantime, do what his fails to do.

9. I wish to make a final remark upon the general doctrine of the Unknowable, of which Mr. Spencer considers this to be a part; there being other questions that find themselves localised in the same wide region. If I take any exception here, it is only to the mixing together of the several transcendental problems, as if they stood or fell on the same grounds. There are three questions :—External Perception, Theism, and Materialism as against the prevailing duality of Body and Mind. Now, I conceive that the alternative solutions of any one of these are quite compatible with the alternatives of any other. For although the duality of Body and Mind is supposed to facilitate the conception of Theism, Materialists may be Theists, without any self-contradiction. Again, it has been conclusively shown, that Idealism and Realism are equally compatible with Theism. It is the sign of a clear metaphysical head, to keep these three questions always distinct; to make each stand on its independent foundation.

10. I conclude by reverting to the necessities and usages of common speech, which will ever continue on the basis of Crude Realism. We may, as Idealists or as Transfigured Realists, think with the philosopher, but we must speak with the vulgar. For this inconsistency, we have a notable precedent. The Copernican astronomer, in his strictest mood, speaks of the sun rising and setting; even the *Nautical Almanack* finds its account in winking at the inconsistency. It is never allowed to introduce practical error into the astronomer's calculations, yet it is a perversion of a scientific fact. In the same way, we shall go on talking of the material world, as of a thing outside and apart from the mind, as having intrinsic properties, exactly such as come up in perception; as existing out of perception in the same manner as in perception.

A. Bain.

DEFINITION OF CONSCIOUSNESS.

In the article on "Dictionary-defining," which appeared in Mind, No. XXII., attention was directed to the nature and methods of legitimate definition, and various rules were formulated for the purpose of showing the scope and limits of the defining process, and more particularly of affording guidance in the handling and presentation of words

expressive of ultimate notions and of such others as require some subtlety of analysis and discrimination. The process, or rather processes, there exhibited are of far-reaching application; and, while they find a field of operation in the dictionary and school-books and such like, they are not less indispensable in the sphere of philosophical and psychological terms. It is now intended in a series of Notes, which the Editor has kindly permitted, to show their application in this latter sphere; and it may be as well at the outset to state with distinctness what is exactly contemplated to be done. In the first place, we may mention that we do not contemplate a full *historical* treatment of the various terms that shall come before us; neither, in the second place, do we contemplate an exhaustive discussion of opposing views and doctrines. Historical matter will indeed be freely introduced, and criticism cannot be avoided; but both the criticism and the history will be conditioned by the end aimed at: their sole value lies for us in the power they possess of helping out or furthering the definition.

Our purpose, then, may be stated in a single sentence. It is the handling, with a view to explanation, of certain prominent and fundamental terms in philosophy, according to the methods already laid down in the Definition-article; additional help being derived from the history of the terms and from a critical sifting of the more approved and current meanings.

A further word may be added, of a preliminary nature, as to our mode of grouping. Obviously, any one of several plans might be adopted. We might arrange the terms in alphabetical order, or we might place them with regard to the science or department they belong to, or we might group them according to their natural alliances. If we except convenience of reference, the first of these methods has little to recommend it, and so may be at once discarded. The second would be admirable, if each term in philosophy stood alone and were strictly confined to one science or department; but, in point of fact, few leading philosophical terms do stand alone, and many of them have various applications—say, a logical aspect, a psychological aspect, a metaphysical aspect, and an ethical aspect. And thus we are driven to the third, or rather, let us say, to the third in combination with the second; and it is this combination that will afford us the method to be pursued on the present occasion. In working out our analyses, we shall sometimes be able to present terms as correlated couples, at other times (though rarely) we shall take them singly; but more commonly we shall have to start with one as a centre, and then to weave around it such others as are most nearly allied to it in meaning or may run the risk of being confounded with it. Only thus shall we define and analyse, shall we compare and discriminate, to advantage; only thus may we hope to gain the clear conception or conceptions whereof we are in quest.

We commence, then, with the connected group whose central term is CONSCIOUSNESS. This group is—*Experience*, *Consciousness*, *Knowledge*, *Conviction*, *Attention*, *Perception*. It has been customary in

philosophy to regard consciousness as the primary condition of all mental activity; and, as the complement of this, it has been customary to lay stress upon the circumstance that consciousness is not itself a faculty on a level with the other so-called faculties of the mind, but something that co-exists with every mental act and operation, and without which no faculty could ever be exercised. Now, apart from the antiquated reference to "faculties" here, there is clearly in the conception itself an overstepping of the limits of fact. That mental exercise is in great measure conscious, no one of course disputes; but there is every reason to believe that much of the mind's activity goes on beyond the range of consciousness. Such is the case with secondarily automatic actions, and such, too, is the case with latent mental modifications—"obscure ideas," "sub-consciousness"—or, to express it from the side of physiology, unconscious cerebration.[1] In the face of this, a less sweeping and more guarded definition is required. The line must be drawn between the mind's *wakeful* activity and such other mental activity as stands opposed to this or is distinct from it, but which is, nevertheless, as real and effective—an activity that may go on even during our waking hours, but which is never manifested to us except in its products or results. The mind's wakeful activity is Consciousness—consciousness as opposed to dormancy, dreamless sleep, swoon, insensibility, but not to Death. Death is the cessation of all activity, conscious and unconscious alike; and the opposite of death is Life—a much wider word than Consciousness. Consciousness is *awakeness:* and we must not forget that it has reference both to objective phenomena and to subjective; we are alive to things without us as well as to things within, and the mental and the material may both affect us and both engross or occupy our attention.

To that extent, then, the current definition is objectionable. But it is objectionable further as being founded on a misconception. It calls consciousness a *condition* of mental action. But to call it a condition, or even a concomitant, is to forget that consciousness, taken by itself, is nothing—that it is simply a generic name; a name, therefore, whose meaning is ascertainable only in distinct conscious experiences. In every moment of our conscious being, we exist in some definite state or other. Now we are absorbed in thought, now we are engaged in action, now we are experiencing sensation: but whatever the state at any particular instant may be, it is that particular state and nothing else. There is not both the state and the consciousness of it; the state and the consciousness are identical: or, if anything further be connoted by the name—anything over and above the present experience—it is the circumstance that what now exists in one particular state may next moment be in one or other of an indefinite number of different states; that which thinks may feel, that which feels may will, that which wills may act, and so forth.

[1] This doctrine gives only a seeming countenance to Hegel's Thought or Schopenhauer's Will.

An error akin to the foregoing is that of regarding consciousness as a sort of "luminous atmosphere," in which (as it were) phenomena are steeped and by which they are revealed. This mode of conceiving it is very common, and if it meant nothing more than that conscious activity is only one form of mental activity (the luminous or wakeful form), it might be allowed to pass as an eccentric way of expressing an important fact. But if it means, as apparently it does, that consciousness is something over and above distinct conscious states, it must be condemned as fundamentally erroneous, and the instrumentality of revelation that it speaks of must be discarded as a chimera.

Consciousness, then, is awakeness: and having thus tried to set forth its true nature, let us next—for the sake of clearer apprehension—bring it into relation with other kindred and allied words, wherewith it is apt to be confounded.

Consciousness is sometimes used as a synonym for Knowledge; but this can be only by the figure of synecdoche where the whole is put for the part; for Knowledge is only *intellectual* Consciousness, whereas Feeling and Volition are conscious elements no less than Intellect. Knowledge, again, is intellectual consciousness in the form of mental concentration; when, out of the untold variety of conscious experiences that we have, the mind selects this, that, or the other portion, and allows the rest to pass by unheeded. As has been well said, there is a discriminative and there is a selective consciousness, and, though the former is, properly speaking, intellectual, it is only the latter that rises to cognition. Nor is the matter mended if we confine the term to *immediate* Knowledge. The part for which the whole now stands is even smaller than it was before, or, if it is larger, it is only by an unwarrantable stretch or abuse of language. Yet, it is this figurative use that seems to have led Hamilton and others into the mistake of supposing that Consciousness is founded on Knowledge—a view that is sufficiently refuted by pointing to Feeling, where, as a rule, the greater the intellectual pre-occupation the less are we awake to the feeling proper, and conversely.

Again, Consciousness is to be distinguished from Self-consciousness; this latter being, strictly speaking, a contradiction in terms. For if, as is allowed,[1] we have no *immediate* Consciousness of self as apart from its modes and manifestations—if, in other words, we are not *awake* to it—a *mediate* consciousness is absurd. Hence the inadequacy of such a definition as Ferrier's:—"By consciousness we mean the notion of self; that notion of self, and that self-reference, which in man generally, though by no means invariably, accompanies his sensations, passions, emotions, play of reason, or states of mind whatsoever". The only intelligible signification is when Self-consciousness is made to stand for the subject consciousness, as distinguished from the object consciousness,—our wakeful experience of the world within, as distinct from our wakeful experience of the world without.

[1] See Locke, Hume, Kant, Reid, Stewart, Hamilton, Mill, Bain, &c. On the other hand, see Descartes, Berkeley, Mansel, Ferrier.

Not less objectionable is it to identify Consciousness with Conviction: a very common error in philosophical disputes, more particularly in the Free-Will Controversy and in the metaphysical problem of the External World. Conviction is no unerring authority; it may be right or wrong, groundless or defensible, reasonable or absurd: and to try to settle a dispute by an appeal to Consciousness, when all the time it is simply an appeal to deep-rooted conviction (which may be the result of education or of prejudice or of habit, or which may result from one or more of a hundred other causes), is certainly to cut before the point.

A distinction, again, has to be drawn between Consciousness and Attention. Attention is but one form of consciousness—it is consciousness concentrated; which, although most frequently a voluntary act, is not so always. *Awakeness* is not at all the same thing as *awareness*.

Once more, there are various names used by Descartes and the Cartesians as synonymous with consciousness, which, however, are by no means such, and ought therefore to be discriminated. Thus, in the writings of Descartes himself, not only is Thought taken as convertible with Consciousness, but Consciousness is frequently identified with Perception. To Thought we shall return by and by, when we come to treat of Reason; but meanwhile, as to the other, perception is a word with diverse meanings, and surely it does sufficient duty when it is made to stand—now for sense-perception or immediate knowledge through the senses, now for the intellectual or objective element in sense-perception, now for the passivity of mind in contradistinction to volition, which is the mind's activity,—without putting it to this further and more general use. Much the same may be said of Malebranche's "internal sentiment" or "inner feeling". Feeling expresses a distinct and definite enough conception; but, as such, it is only a mode of consciousness—one among several; and to employ it in this extended signification is simply to breed confusion and ambiguity.

There are two other words not unfrequently given as the equivalents of Consciousness, which ought nevertheless to be distinguished: I mean Experience and Apperception. Apperception, if we retain it at all, ought to be restricted to self-consciousness (as above explained), and Experience is a term of the widest import. Be it observed, there is a conscious and there is an unconscious Experience, and the Evolution-theory has taught us that Experience is *inherited*. What, however, in strictness we inherit is not experience, but the results of it. Again, our knowledge of life and of the world is in great measure dependent, not simply on what comes within the range of our own individual Consciousness, but on what we learn on the testimony of others. Experience, accordingly, has to be extended so as to include History. But not even yet are its applications exhausted. It is common in Philosophy to oppose Experience to Intuition. We have here the antithesis of two sources of knowledge, or of what among our mental possessions can be given us by our life as lived in time

and what this time-life is (or seems to be) incapable of originating: in other words, it is the antithesis of the innate and the acquired. In this sense, Experience is regarded as the lower and Intuition as the higher origin: or, to put it otherwise (as is often done), it is the contrast of the more dignified and the less dignified—of the more authoritative and the less authoritative; although upon what reasonable ground the contrast is made, one is rather at a loss to perceive. For, even granting (as we do) the existence of intuitive truths, they cannot at the best be more than true. But the knowledge got from Experience is true also; and to pit the one against the other as the more and the less authoritative, is either to use the word truth equivocally or to deny that truth (*some* truth) is itself true.

It is scarcely necessary, after what has been already said, to remark that there is no proper contrast between Consciousness and the Senses, such as we find Reid making towards the end of the *Inquiry*. There is looseness to a degree in such a sentence as the following:—"The way to avoid both these extremes [*viz.*, spiritualising body and materialising spirit] is to admit the existence of what we see and feel as a first principle, as well as the existence of things whereof we are conscious; and to take our notions of the qualities of body from the testimony of our senses, with the Peripatetics; and our notions of our sensations, from the testimony of consciousness with the Cartesians".

Let us now sum up. What is the conclusion we have reached? As the result of our analysis and comparison, we find that Consciousness is best defined by antithesis and discrimination. When we have brought it into connexion with its opposites, and when we have marked it off from the things most nearly allied to it, we have done the most that words can do to make it evident and plain. Consciousness is a convenient generic name (or, better still, perhaps, collective name), most nearly translatable by the term Awakeness; but we conceive it wrongly when we speak of it either as a condition of mental states or as a concomitant or as a revealer. Once draw the line between wakefulness and non-wakefulness, and it is this, that, or the other mental state, and nothing different; and to regard it otherwise is confusing and unphilosophical.

From this there follow certain important consequences. In the first place, if Consciousness be awakeness, and if it is for the moment identical with the mental wakeful state of that moment, then we see that it refers, strictly speaking, only to the present. A consciousness of the past is absurd. It is Memory that deals with the past; but even Memory, as a mental state, is a present fact. In like manner, there cannot be a consciousness of the future. We *anticipate* the future; but even anticipation as a conscious experience is present. Secondly, if Consciousness be awakeness, it is, as to its existence, beyond the reach of question. Dispute arises only when it is taken as a *testifier*—a testifier of truths intuitive to the exclusion of others; or when it is unlawfully identified with Conviction. Last of all, we can now see the intelligibility of the Cartesian position—that

Knowledge is founded on Consciousness. We do not call that position false; it is simply inadequate. No doubt, Knowledge *is* founded on Consciousness; but other things (in this sense) are founded on Consciousness as well. Thus, there is no feeling without awakeness, neither is there purposive act.

WILLIAM L. DAVIDSON.

SENSE OF DIZZINESS IN DEAF-MUTES.

Professor WILLIAM JAMES has the following Note in the *Harvard University Bulletin* No. 18 (1881):—

"An immense amount of evidence, collected within the last few years, tends to show that the semicircular canals of the internal ear have nothing to do with the function of hearing, but are organs of a special sense hitherto unrecognised as such: the sense, namely, of translation through space, which in its more extreme degrees becomes the feeling of dizziness or vertigo. It occurred to me that, if this theory were true, some, at least, of the inmates of deaf and dumb institutions ought to prove insusceptible of experiencing this latter sensation, for in some either the whole auditory nerve is probably degenerated, or else its ampullar terminations will have shared the local fate, whatever it be, which has abolished the hearing functions of the cochlea. An inquiry was accordingly set on foot, of which the results already most beautifully confirm the modern theory. A very large number of the deaf-mutes examined are either wholly incapable of being made dizzy by the most violent rotations, or experience but a slight and transient giddiness. Others, as was to be expected, are strongly and normally affected. The difference in the demeanour of the two extreme classes of patients is so striking as to leave no room for mistake, and to banish doubt from the most sceptical spectator's mind. In the Horace Mann School in Boston, where 54 children were whirled in a rotary swing, (by far the purest and most powerful means of inducing vertigo), only 2 were made dizzy. At the Hartford Asylum, out of 155 pupils, 49 are reported not dizzy, and 49 hardly dizzy. At the National College for Deaf-mutes in Washington, out of 62 persons examined, 19 are not at all dizzy, and 2 hardly dizzy. I have also received 58 answers to a printed circular of questions: 18 of these report complete absence, 12 a slight degree of dizziness. In all, 326 cases, of whom 131 were not dizzy, and 63 but slightly so. The deficiency in question seems quite independent of the age at which deafness began, semi-mutes and congenitals being found indifferently in all three classes. The number of deaf-mutes who are afflicted with disorders of locomotion seems never to have attracted the attention of physiologists, although it has long been notorious in asylums. The connexion of these disorders with the loss of the semicircular canal sense becomes now a most interesting problem, into which I have begun to inquire. The matter is evidently complicated by the fact that the disease causing deafness may also leave central disorders expressing themselves in anæsthesia of the legs or by ataxia. That this is so appears from the number of semi-mutes who stagger and zigzag in walking, especially in the dark, but who are normal as respects dizziness. Congenital mutes are hardly ever found with disorders of locomotion. The evidence I already have in hand justifies the formation of a tentative hypothesis, as follows: The normal guiding sensation in locomotion is that from the semicircular canals. This is co-ordinated in the cerebellum (which is known to receive auditory nerve fibres) with

the appropriate muscles, and the nervous machinery becomes structurally organised in the first few years of life. If, then, this guiding sensation be suddenly abolished by disease, the machinery is thrown completely out of gear, and must form closer connexions than before either with sight or touch. But the cerebellar tracts, being already organised in another way, yield but slowly to the new co-ordinations now required, and for many years make the patient's gait uncertain, especially in the dark. Where the defect of the auditory nerve is congenital the cerebellar machinery is organised from the very outset in co-ordination with tactile sensations, and no difficulty occurs. To prove this hypothesis a minute medical examination of many typical cases will be required. If this prove confirmatory, it will then appear probable that many of the so-called paralyses after diphtheria, scarlet-fever, etc., may be nothing but sudden anæsthesiæ of the semicircular canals.

"A complete discussion, with further details, is reserved for future publication."

VII.—CRITICAL NOTICES.

Illusions. A Psychological Study. By James Sully. ("International Scientific Series.") London: Kegan Paul, 1881. Pp. 372.

This book, as a whole, has two distinctive and valuable features:—(1) It takes "illusions" in a wider and more practical sense than usual, extending its view beyond sense-illusions. (2) While fully admitting the validity and importance of the philosophical aspect of the whole question of illusion and error, Mr. Sully has admirably succeeded in keeping clearly before his mind the distinction between science and philosophy, and his treatment is strictly scientific as involving no philosophic assumptions or conclusions.

The keynote of the book is struck in the succinct preface, where Mr. Sully states his aim to be "the description and classification of acknowledged errors, and the explanation of these by a reference to their psychical and physical conditions". But when, in half-apologetic fashion, he goes on to say, "At the same time, I was not able, at the close of my exposition, to avoid pointing out how the psychology leads on to the philosophy of the subject," one is disposed to feel that he need not excuse himself for, so to say, showing his hand at the end. This might rather be named a third characteristic which distinguishes his book and gives it value. It seems a great thing for the general reader and the student of science that they should in such frank and generous fashion have thrown open for them the gateways that lead from science to philosophy, by one who is himself a man of science. The one side of the distinction, that of science, is plainly formulated in the sentence just quoted, as description, classification, and explanation by conditions. The other side, that of philosophy, Mr. Sully will make plain to us in his epilogue.

In Chapter I. he defines his field, taking it to extend beyond false perception, but to stop where fallacy begins. Fallacy is explicit

illusion; illusion, implicit fallacy, *i.e.*, fallacy fallen together into itself with its mediated character hidden under the mask of immediacy. Illusion, then, may be shortly defined to be, *apparently* immediate or self-evident false cognition.

But Mr. Sully is not quite consistent when he allows himself to say, that "our notions of ourselves are for the most part obtained apart from any process of inference". Surely they are not "*obtained*" apart from inference, though it is their differentia to be *held* apart. Understanding "inference" rather loosely, as Mr. Sully evidently does here, to cover all kinds of "ideal construction," a fallacious "inference" taken by inadvertence to be immediate fact of consciousness, might be given as a general definition of illusion. All consciousness unreflected on simulates the certitude of self-evident fact. Reid's handsome list of natural beliefs and "deliverances of consciousness" illustrates illusion from this point of view. To explain such illusions is to resolve them into fallacies—false inferences or spurious structures of representation. That is the very pith of Mr. Sully's science. Yet, he will go no further than say—"Analysis of error *may* discover that these two classes of error are at bottom very *similar*". In this modest way of putting his case, I think we shall find, as we go on, that he does his own thoroughgoing psychological analysis less than justice, as it will inevitably lead us to the conclusion, that illusion to popular inadvertence is to science that has reflected and analysed, fallacy. Thus, that "grand illusion of sense" (if there be any such illusion), that thinks it sees "an external world existing in itself" and in no wise dependent on perception, may turn out to be for us, as it did for Berkeley in the crucible of his analysis, a grand fallacy of scholastic inference. But our author will not commit himself so far. At all events, he relegates such questions to his last chapter, as involving "a certain kind of philosophic reflection," which is not an instrument of science.

Science and common sense have only to assume their "consensus" to be true knowledge, and then consent and consistency become criteria of truth. And illusions are made evident against this background of "universal" and "permanent" human experience, as abnormal, unstable, and transitory, as isolated and individualistic. Note here that illusion is never *absolute*, but always relative to a consistent body of knowledge. The philosophic significance of this will come out in the end.

Meanwhile, assuming provisionally at least, the truth of human experience so far as it possesses solidarity, we get into Chapter II. and "Classification". Mr. Sully indicates that a perfectly scientific one would be based on having thoroughly tracked illusions up to their origins, which would be found to be different kinds of false processes of reasoning; but prefers to adopt a popular division into illusions of Perception, Introspection, Memory, and Belief, which is no doubt a good working one, and covers the ground.

Perception is treated very fully in four chapters (III.-VI.), occupying, with a subchapter on Dreams, quite one third of the volume. This

is not too much space for what is the most obvious region of error, where explanations are most easily worked out and give readiest initiation into the scientific method of treating illusion. And though this is familiar ground, our author irradiates it with novel and striking illustrations and elucidations.

Chapter III. begins with an account of the psychology of normal perception, as *right* reference of present sense-impressions to the context of experience. In the pages that follow, it is evident that Mr. Sully is averse to the parcelling and pigeon-holing kind of mental science, as he shows how the process of perceiving involves "recognition," and leads on to fully conscious judgment and inference. Attending, discriminating, judging, sifting, parting, joining, and classing are all *implicitly* here in perception; and they are operations of Reason. The first single least percept of the infant is the whole science of the sensible world *in nuce*.

Mr. Sully makes a very happy use of Dr. Hughlings Jackson's distinction between "preperception" and "perception proper," taking these not as results, but as moments in the process of perceiving. Thus, the mind wakes up to clear vision of what is before it, first by attending only to the immediate presentment of sense, and letting representations gather and group themselves round this nucleus as it freely suggests them,—this is the moment of "preperception"; and then by attending to the whole thus formed, and so assimilating the degree of vividness of its represented constituent to that of its sense-presented,—this is the moment of "perception proper" and completed. (1) Redintegration, (2) redintegration recognised—not complete and separable states, but two continuous inchoate movements. Perhaps one might have wished that Mr. Sully had been a little more decided about this point, and had also shown more plainly that he recognised as essential the reflective and attentive activity of the mind in both stages. On the contrary, he allows himself in one place to call the first stage "passive" without any qualification.

In seeking for a working definition of perceptional illusion, he encounters an obstructive in the shape of the physicist "reducing all external changes to modes of motion"! But is it quite fair to the physicist to say he thinks he does that? His task would be a very ungracious one, and useless too. "*Naturam expellas, &c.*" Light, colour, heat, sound, smell, and taste would keep on rehabilitating themselves in spite of his efforts, and would insist on their standing in the real world. All he does and professes to do is to give the touch and muscular sense *conditions* of sights, sounds, &c.; or rather, to give his ideal reconstruction of the real sensible world in terms of measurable abstractions from percepts of touch and effort. He is not an enchanter. But, even from such supposed affirmation of the illusoriness of all the senses but the physicist's favourite one, Mr. Sully finds a refuge for us in what appears to be the only criterion of truth—namely, consistency and consent. This is his excellence as a guide. He will never let us quite lose the clue, or get swept out of the main drift of his doctrine. "It is plain," he says, "that the

illusoriness of a perception is determined in relation to the sense-impressions of other moments and situations, or to presumably better percepts than the present one." Because (I suppose) *they* cohere and agree, and *it* is left standing loose or alone. Sight is verified by touch; touch, by sight; and so on. "A quasi-percept peculiar to an individual" is an illusion. "Deviation from the common and collective experience" is illusory. In short, illusion is dislocation or isolation; truth is consistency and solidarity. It is not that the ultimate bits of consciousness which go to make up any illusion are unreal; but that these right bits of reality have got wrongly placed. They are misfits, and have not gone together coherently to make the kind of mosaic we call truth. Truth, and not reality, is the contradictory of illusion. Mr. Sully does not say this right out and stick to it all through, but he certainly suggests it.

There must be at least a *minimum* of misinterpretation, before there can be an illusion fully fledged; and misinterpretations or illusions fall into two classes, which our author rather questionably calls "passive and active". In the first or "passive," the formation of the misinterpretative image starts from, and is suggested by the sense-impression or initial percept. In the second or "active," it is preformed in the mind. But as the formation of the image may be involuntary (*i.e.*, unaccompanied by sense of effort), just as much when it occurs before the fact of sense-impression, as when by way of suggestion it occurs after, it is difficult to see why the one class of illusions should be called "active" and the other "passive". Better say (1) illusions of suggestion, and (2) of preconception.

In Chapter V. the illusions of art, as the use of the cast shadow, colours of retreat and advance, and the devices of linear and aërial perspective, are here dealt with in a very interesting way; and woodcuts help our apprehension very materially. In this connexion, Mr. Sully differs from Helmholtz, in referring the difficulty of seeing *cameo* as *intaglio* to our much greater familiarity with cameo in nature and art, rather than to the casual presence of the cast shadow. The illusion of taking depressed design for raised is easy and frequent for the same reason.

As the authoritative testimony of an expert, well-accustomed to the reflective scrutiny of what passes in his own mind, it is most instructive to come across, at p. 89, Mr. Sully's admission that "what we call a conscious 'sensation' is really compounded of a purely passive impression and the mental activity involved in attending to this and classing it". So, would not the "sensation" be better called an initial percept, inasmuch as such minimum unit of perception is always more than the mere sense-impression by a thought-element without which Kant's sense-manifold would not be even a blur, and not even *in limine conscientiae?* Mr. Sully inclines one to say with Ferrier that "sensations" or "impressions" pure and simple (*i.e.* without the thought-element) are simply pure nonsense.

Chapter VI. brings us to illusions of preconception, where the error arises from preoccupation of the mind by preformed images

And, first, Mr. Sully takes cases where we arbitrarily predetermine ourselves to see something this way rather than that. He gives woodcuts which we may see either as convexity or concavity, as a staircase seen from below or from above, just as we choose. But is this voluntary selection of alternative interpretations illusion at all? We know very well what we are about. But illusion is always unaware of itself. We are indebted, however, to him for enabling us to make these curious experiments, as they admirably illustrate "*involuntary* mental preadjustments". These may be permanent or temporary. Perhaps, we see the effects of an organised and permanent percipient attitude affecting a whole community, in the eccentricities of Chinese art. The illusions of the *séance*, the theatre, the miracle, and the picture-gallery, afford Mr. Sully examples of temporary, personal, and emotional preadjustment and expectancy.

In Chapter VII., Dreams are treated as a kind of perceptive illusion. The old question, "Is sleep ever dreamless?" is reconsidered, and very properly left *sub judice*. Mr. Sully gives many new and odd dreams—some his own—and his explanations are subtle and clear. His most valuable contribution to the science of dreams is, perhaps, an attempt to explain their frequent coherence or organic unity. This is, he thinks, the *crux* of the study, and he offers two solutions:—(1) The *lyrical* or emotional unity of many dreams, where an emotion fixed and dominant allows only images congruous with itself to enter the theatre of the mind. Such a dream is built up on a groundwork of feeling, like a lyrical poem, and finds its harmony and unity therein. There are given here a very naïve dream of a little child and many other fresh illustrations. (2) The *dramatic* unity of dreams, wherein one is, so to speak, one's own playwright and stage-manager. The intellectual impulse to connect and harmonise is not always quite asleep. "The intellectual sentiment of consistency" is often, if not always, awake enough to guide the activities of attention, as it does, when "on entering a room we are plunged *in medias res* of a lively conversation and strive to find a clue to the discussion". This kind of dream-coherence is also illustrated by original dreams—some of them very grotesque.

In Chapter VIII., on illusions about one's empirical or objective self, there is some trenchant criticism of the intuitionist who, careless of reflective analysis, accepts handy "deliverances of consciousness" which fall in with his prepossessions and "common sense"; and at the same time there is a well-argued defence of the introspective or reflex analytic method in psychology, showing that its illusions are eliminated in the growing consensus, by reference to a common body of introspected fact.

The next is a sub-chapter on æsthetic illusions and errors of insight. Insight, æsthetic, or moral and social, is the reconciliation of introspection and external perception. As intellectual truth, so æsthetic and moral consists in endless approximation to universal and permanent consensus. Insight consists in colouring an outline, or filling in a frame, of sense-percepts—looks, words, tones, accents,

gestures—with representations of one's own feelings. It is self-projection. Want of congruity in the result is the measure of its illusion or untruth. If the spiritual picture fits the sensible frame, and the emotional colours agree with each other and the outline, there is true insight into present character. Mr. Sully gives the *rationale* of histrionic illusion, mythopoetic illusion, and social misunderstanding.

In Chapter X. it does not seem to be made quite plain enough that memory pure and simple—*i.e.*, the memory involved in the consciousness of any single least feeling that it may have time-occupancy and exist—does not allow of illusion. Such memory is immediate and self-evident. It is the complex process of recollection that leaves room for illusions. There are many passages in this interesting chapter one would like to quote and comment on, notably two little speculations about dreams invading waking life, and about prenatal or ancestral experiences possibly doing the same; in both cases with illusions or *spectra* of memory for issue.

Here is considered the question of "personal identity," and when Mr. Sully observes that "our ordinary *image* of our past life, if only by omitting the very large fraction passed in sleep in at least an approximately unconscious state, contains an ingredient of illusion," no one will care to deny the justice of the remark. There are immense *lacunae* in the picture of our past life due to periods of sleep and lapses of memory which our imagination vaguely fills up with long stretches of experience of the common type. But consent hesitates when he goes on to say—"My idea of myself as persisting appears to be built up of certain similarities in the succession of my experiences". Is the thought or cognition of the "I" that persists and continues its self-sameness in knowing and thinking, an "idea" or image of sense? Would any heaping up of "similarities" give sameness? There is "a uniting thread of similarity," he says a few pages on. But, a uniting core of sameness is the intuition of mankind. The moments of reflection are continuous, and the act of reflection is ever one and the same.

And consent comes to a dead halt when Mr. Sully further unfolds his meaning and says—"My idea of my persistent self is essentially a collective image representing a relatively unchanging material object,"—endowed with sensibilities, of course. Is that anybody's notion or knowledge of his essential inner continuity and persistent sameness throughout all changes of his empirical or objective ego and environment? When one says "I," does he really mean anything only "relatively unchanging," or anything "material," or any "*collective* image"? It is doubtful. However, Mr. Sully fortifies his position with very plausible illustrations of "rupture of identity without any transformation of self"—(though that sounds very like a contradiction in terms!)—and ruptures of identity that are transformations of self. Take one or two samples. "The loss of a limb will distinctly give a shock to our consciousness of self"! Would the loss of two limbs or four? It is matter for experiment. "A

patient after fever, when he first looks in the glass, exclaims, I don't know myself." But does "myself" here mean more than "my face," "my body"? To say "I," he must already be self-conscious of self-identity, and he or *she* is only acting a pathetic little play before the mirror. Now take Mr. Sully's strongest case. Naturally, to find it, we must go to bedlam. Suppose, I am quite lost and gone in lunacy, and *I* think of *my* former self as detached from *my* present, and of *my* "previous life as a kind of unreal dream". Still, I am I: *I* am thinking and "my"-ing, and parcelling out dead selves and dream selves, and detaching them from myself, and from my present empirical self, and from each other. Where is the breach of self-same continuity of "I"? I may or may not be Queen Anne, but I remain I. Howsoever accident and disease may hack and hew us, it does not appear that the deepest clefts in the empirical ego ever reach to the root of personality. Only the empirical or objective ego is subject to vicissitude.

By "belief" in Chapter XI., Mr. Sully means all representation other than memory, "including anticipations of the future, knowledge of others' past experience, and general knowledge about things". These representations come to simulate the form of immediacy or self-evidence, and then when false are illusions. The chapter treats of erroneous beliefs in others, and in one's self, illusions of self-esteem predetermined by the instinct of self-preservation, illusions of cynicism, misanthropy, optimism, and pessimism, until we get bewildered and lost amidst the fluctuation and endless variety of human belief, and "the mind naturally asks, What are the real limits of illusory cognition, and how can we ever be sure of having got beyond them?"

To this question, Chap. XII. is an answer. Mr. Sully begins by premising "that in so far as any act of cognition is strictly speaking presentative, it does not appear to admit of error". This is a very considerable bit of dry land in our sea of doubt, to begin with. It may be taken to mean that illusions are not unrealities, only realities in the wrong place—realities in the only sense we can attach to the word, namely actual presences in consciousness.

But from such misplacements of realities what prospect of deliverance "from the standpoint of science"? To this Mr. Sully next addresses himself. "The progress of the sciences may be described as a movement towards a new, higher, and more stable consensus of ideas and beliefs." Granted. But what of "permanence" and absolute stability and a "universal" consensus?

Suppose the circle of human sciences perfected in self-consistency. Then the eccentric opinions of the individual would be illusory as against the consensus of mankind. Yes, but then consider the whole human race as one individual, and imagine the realms of *possible* consciousness and knowledge beyond him. What then? The whole accepted and self-consistent body of human knowledge might then stand apart in the isolation and eccentricity of illusion. It seems to me that the hopefulness of science is, in the last resort, based on an

ultimate optimistic faith, that is not irrational, but is ultra-rational, that seeks no justification and could find none.

But there remains "the familiar method of the evolutionist". Can it help us? Mr. Sully has his doubts. There is a vast range of illusion on which "practical efficiency" and "survival of the fittest" have no bearing. Doubtless, communities that act in one mass succeed and survive, and conjoint action implies common belief. Yes, but not necessarily *true* belief. Mr. Sully puts the evolutionist's case very fairly, but the conclusion of the matter is that "Science cannot prove, but must assume the coincidence between permanent common intuitions and objective reality". It assumes an external world, the uniformity of nature, universal causation, &c. Philosophy is asked, if she can justify these assumptions? This is the transition to philosophic reflection. "Philosophy is still a question and not a solution." So, Mr. Sully does not commit himself to any of the philosophies, which he indicates in outline. He is neither "transfigured" absolutist with Mr. Spencer, nor phenomenalist with Mr. Hodgson, nor nihilist with Hume and Mill. The Phenomenalists might complain that he is not quite judicial in such phrases as "real objective existence," which for them would either be tautology and equivalent to "really real reality," or an indication of a tendency to bow down and worship the "unknowable" *Ding-an-sich* of Absolutism. But Mr. Sully does not mean any harm. His sincere desire, as a man of science, is to stand neutral, and he succeeds on the whole. There is one exception however, namely, his criticism of the disintegrations of the "Association-philosophy," and rehabilitation, *as against these*, of some of the intuitions of common sense, and the assumptions of science. This is mainly done by taking advantage of the vulnerable spot, that fatal dualism which allows talk of "permanent possibilities of sensation," and of "series of feelings aware of themselves as past and future". Still, there is a tendency on the part of the critic himself to break up the unity of experience, by admitting—perhaps for the sake of argument, but as I think unfortunately—that "objects" are entities or things-in-themselves apart from mind; that in this sense there may be "an objective necessity" corresponding to causality; and by talking of "real objects" as if there could be *unreal* objects, or as if "real objects" must be something less than objects—pure "jects" without any *ob*-verse aspect. But discounting these concessions to popular inadvertency, which are not merely needless but really impossible to make, his criticism in the interests of science and its prospects, as against the nihilism of the Hume-Mill School, is acute, and deserves careful and detailed consideration. There is one very questionable point, however, where he says that origin and genesis do not determine validity and legitimacy. After analysing certain cognitions and sentiments (*e.g.*, belief in "free-will") into their elements, I may not declare they mean no more than their elements. Why not? Does not the "origin" or basis determine the validity and truth of the superstructure? Does not the question of its validity resolve itself into these two:—Does it cover the *whole* base?

Does it cover *no more* than the base? As to the validity or reality of the basal elements themselves, that is the grand universal assumption of popular, scientific, and philosophic thought—a faith in the reality of what is present in consciousness, implicit, inexplicable.

We shall be in substantial accord with Mr. Sully's conclusion, if we say that illusion cannot extend to the whole of knowledge, taken as a whole and without reference to the places and proportions of its constituent parts. To consider it illusory *as a whole*, we must take it as part of a greater whole of knowledge, and refer it to an imaginary world of intelligence beyond man. But *within* the human sphere, which is the range of practice, if for one instant we entertain the doubt that the roots and the best ascertained developments of our knowledge and thought may be illusory, we must the next instant say "Illusion be thou our Truth," and go on to find and determine and correct illusions and errors within this Truth, and by reference to it.

The envelope of science and all activity of human reason, besetting it before and behind, would appear—if these considerations have any weight—to be a faith unreasoning, but not unreasonable, inasmuch as it is the ground of all reason.

We must implicitly believe that whatever is present in consciousness is real, and that on this reality, and out of it as material, Reason can build up Truth and not illusion.

J. Burns-Gibson.

Berkeley. By A. Campbell Fraser, LL.D., Professor of Logic and Metaphysics in the University of Edinburgh. ("Philosophical Classics for English Readers.") Edinburgh and London: Blackwood, 1881. Pp. 234.

Though Professor Fraser can truly describe this volume as "an attempt to present for the first time Berkeley's philosophic thought in its organic unity," he does not now for the first time put forward the conception upon which it proceeds. This is that Berkeley, in his first as in his last works, was concerned always to establish a general philosophical conclusion as to the relation of finite minds to the Infinite Mind, and is misrepresented when special importance is attached to the particular psychological doctrines by which he began to indicate the philosophical position. Professor Fraser suggested his view in the plainest possible manner before when, in his handy *Selections*, he placed the full text of the *Principles of Human Knowledge* before a reprint of the earlier *Theory of Vision* from which several points of psychological interest were omitted; and, farther, when, in a second edition, he made way for a fuller exposition of Berkeley's philosophical standing, by withdrawing just those of his original extracts from the *Vindication of the Theory* that are of real psychological importance, as giving precision to the looser argument of the *Theory*. Nor, on these earlier occasions, did he merely suggest his view of the subordinate account that should be made of the

psychological part of Berkeley's writings. He expressed himself as strongly in this sense before as he now does anywhere in the present volume.

The view is, of course, perfectly well justified, and Prof. Fraser could hardly adopt any other in a work that aims at presenting the general characteristics of Berkeley as a philosophical thinker. Yet it is well to note why there should have been so strong a tendency to give prominence to the psychological first-fruits of Berkeley's inquisitive spirit, that his name remains associated with a theory of vision as much as with the doctrine of immaterialism which early and late he was above all concerned to enforce. It can only be due to the thoroughly scientific manner in which he singled out a special psychological question and proceeded to answer it. That he solved as well as raised the question has been much too hastily asserted by Mill and others; but, while at the least he made determinate advances towards its settlement, nothing can rob him of the distinction of having been the first to mark it out in the positive spirit of the scientific psychologist. Though he himself calls it a question of "philosophy" (*Vindication*, § 43), his opposition of it as such to the related questions in "geometry" and "anatomy" would leave no doubt that he means here by philosophy exactly what we now understand as psychology, even if in an earlier paragraph of the *Vindication* (§ 17), he had not formally protested against his opponent's reference "to unknown substances, external causes, agents, or powers," instead of to "ideas" or the simple facts of conscious experience. His treatment of visual perception should be compared with the best work that had been done before him on the subject, as by Descartes, if the full measure of his scientific advance is to be understood.[1] Locke

[1] This is not, however, the opinion of Descartes' latest expositor, Mr. Mahaffy, who writes thus in the volume he has contributed to this same series of "Philosophical Classics":—"How far he [Descartes] was in advance of his day may be seen from the 6th Discourse [of the *Dioptric*], in which he explains the perception of distance, and lays down explicitly all the arguments and illustrations used long afterwards by Berkeley in his *Theory of Vision*. It is impossible that Berkeley can have been ignorant of Descartes' *Dioptric*, and yet how he could claim any originality whatever on the subject is passing strange. The convergence of the optical axes, and how this may be supplied by successive observations with a single eye, the varying colour of the objects, the greater dimness, the number and kind of intervening objects, the uncertainty of all these various indices—all this, which Berkeley urged, is found in Descartes' *Discourse;* nay, even the illustration of the moon looking larger near the horizon than when high in the heavens." (*Descartes*, p. 150.)

What is "passing strange" is how Mr. Mahaffy can have so written. It certainly is, as he says, "impossible that Berkeley can have been ignorant of Descartes' *Dioptric*". Berkeley may be said to have had it for his first object just to overturn the doctrine that he found there. In section after section of the *Theory*, when he is stating the opinion of the "optic writers" before proceeding to refute them, it is plain that he has Descartes' own exposition rather than any other (such as Malebranche's) in view. Take, for example, § 19 where he says—"I know it is a received opinion that,

had meanwhile given a psychological turn to men's thought, though himself little concerned about merely psychological conclusions; and, as evidence of the influence exerted on so many generations of English thinkers since, nothing is more significant than that the first of Locke's successors, even less inclined as his religious purpose made him to stop short at psychology, should have carefully kept back the general philosophical conclusions which he had already matured, till he had first shown the world what kind of particular question in mental science could be resolved by the new way of "ideas".

Though making light of its more immediate import, Prof. Fraser gives at least a general statement of the fundamental arguments of the *Theory of Vision*. He is not in the same way careful to do the like for the argument, again psychological, which Berkeley places in the forefront of the *Principles* and declares to be so all-important in its bearings on the philosophical conclusion of the treatise. Berkeley's explanation of *generality* in knowledge has had too much rather than too little importance attached to it ever since Hume confounded it with his own nominalism; and his ardent polemic against "abstract ideas" proves, upon closer inspection, to have really very little to do with the question between materialism and immaterialism as he argues it in the body of the work. All the same, it is a rather serious omission on Prof. Fraser's part to have made no reference to the negations or assertions of Berkeley upon the subject.[1] Berkeley's

by altering the disposition of the eyes, the mind perceives whether the angle of the optic axes, or the lateral angles comprehended between the interval of the eyes or the optic axes, are made greater or lesser; and that, accordingly, by a kind of natural geometry it judges the point of their intersection to be nearer or farther of". If there could be any doubt that Berkeley has here in view the passage in Descartes' *Dioptric*, VI. 13, where occur the words. "ex geometria quadam omnibus innata," the point is settled by his quoting it in a supplementary note to the second edition (1710) of the *Theory*. Descartes, besides, is twice mentioned by name in the *Theory*—once in connexion with that very subject of the low moon out of which Mr. Mahaffy makes his climax. But the serious thing is not that Mr. Mahaffy should have hastily charged Berkeley with ignoring Descartes: it is that he should have represented Berkeley's and Descartes' doctrines as being the same. Berkeley's manifold references or allusions to Descartes are all, as said before, with a view to refutation. If he refers to all or any of the points mentioned by Mr. Mahaffy, it is to show that their true import had been quite misunderstood by Descartes and others—that the facts need to be interpreted as "ideas," *i.e.*, psychologically, if they are to have any significance for the real question of vision. This is the true Berkeleyan note, and there is hardly a trace of it in Descartes' Chapter VI. It may be added that Mr. Mahaffy is particularly unfortunate in his climax. Not only was the question of the moon on the horizon discussed, as Berkeley himself notes, by Gassendi, Hobbes, and others, as well as by Descartes; but if there is one solution more than another that he is concerned to explode it is just Descartes' (as it had been more recently revived by Wallis).

[1] There is just the faintest allusion to it at p. 53, and, again, at p. 60. Two casual references long afterwards (pp. 192-3), in a different connexion, will convey no meaning to the reader who does not know Berkeley at first hand.

own vehemence of statement is hardly to be understood save on the supposition that he thought he had made something like a psychological discovery and was bent on setting it forth. It was truly no great matter; his notion of generalisation applying only to a very limited class of cases, and his point, such as it was, being made at the sacrifice of such insight into the function of language as had begun to be gained by Hobbes and Locke. But it is interesting to see how pertinaciously psychological Berkeley could be on occasion. Whatever else he was, they have not erred who rank him with the psychological thinkers of modern days.

It is needless to dwell on other points in Professor Fraser's exposition. Nobody could write on Berkeley with such fulness of knowledge or could well have used his knowledge to better purpose within the narrow limit assigned. Chapter ii. dealing with "Locke on Ideas and their Causes," for the understanding of Berkeley's start, may just be mentioned as particularly effective. Not less so, in another kind, is the concluding chapter, which draws out the issues of Berkeley's thought in the light of later philosophy. The new biographical matter upon which Prof. Fraser has been able to draw—about eighty letters from Berkeley to Sir John Percival, afterwards Earl of Egmont, running from 1709 to 1730—tells something of the reception awarded to the new doctrine on its first appearance. It also for ever disposes of the legend of Malebranche's death. Berkeley, writing from Paris in Nov. 1713, speaks of being about to see Father Malebranche, but he is now proved to have been in England when the aged Oratorian, some two years later, died.

EDITOR.

Wish and Will. An Introduction to the Psychology of Desire and Volition. By GEORGE LYON TURNER, M.A. London: Longmans, 1880. Pp. 356.

As ethics is the science of human conduct, most writers on this subject from the Stoics downwards have commenced their inquiries with an attempt to define, analyse, and classify the mental phenomena which accompany or determine human actions. The principal of these phenomena are of course Desire and Volition, which under the designation of "Wish and Will," it is the object of Mr. Turner's work to examine.

Mr. Turner is neither a pioneer nor a champion; he does not aspire to build up a system or to defend one; but although his book does not contain much original research or subtle dialectic, it is an easy and agreeable introduction to the study of Moral Philosophy. As the treatise is evidently intended for beginners, the reader is required to bring very little previous knowledge to its understanding. Mr. Turner's psychology follows implicitly the lines laid down in Sir William Hamilton's *Lectures*, and this is the only work with which any familiarity is assumed.

Notwithstanding the many recent attempts which have been made to bring the psychology of ethics within the sphere of positive science, Mr. Turner seems to delight in the less rigorous methods of the older metaphysics. Pervaded by a decided theological tone, his speculations are thus apt to run into mysticism. He talks about "the pose of the spirit," without vouchsafing any explanation as to the meaning such a phrase is intended to convey. But, since he says that in metaphysics metaphor is the nearest approach to truth we ought to expect, perhaps he does not attach any precise meaning at all to the expression. The first four chapters of his work are devoted to an analysis of the mental attitude called Desire. On the vexed question whether or not the direct object of desire must always be a feeling, he decides in the affirmative. What we desire or avoid is always some pleasurable or painful feeling, and not the external cause of it. It is certainly difficult to determine, after a desire has once been followed by the pleasure of its gratification, whether the object of all succeeding desires of the same kind is this pleasure or not. Kant, of course, emphatically maintains the existence of what he calls intellectual *desires*, entirely apart from "*feeling*" or "interest". Such a doctrine is absolutely indispensable as a support to his ethical system. But Mr. Turner seems unacquainted with the opinions of Kant, nor does he appear to perceive how fatal to the doctrine of the independence of the Will, is the dependence of desire upon feeling. According to Mr. Turner there are *two* kinds of Desire, *subjective* and *objective*. Subjective desires again may be divided into those which are incited by the memory of a past pleasure, and those which aim at the continuation of a present agreeable feeling. A too "minute philosopher" might perhaps demur to this distinction, on the ground that memory is as necessary in prompting the continuation of a present pleasure as in reviving a past. No doubt, Mr. Turner was thinking of spontaneous movement for the maintenance of a present pleasurable feeling, which Professor Bain makes a prime factor in nascent Volition. In animal life, by the by, is not spontaneous movement for the avoidance of pain, a more obtrusive fact than involuntary action for the prolongation of pleasure? We should certainly say that if "Desire is the child of Feeling," as Mr. Turner reiterates, it is of a painful and not of an agreeable feeling. Pain may, in fact, be held to be the cradle of consciousness. Mr. Turner does not consider the question whether the mental attitude of Desire itself is pleasurable or painful. It will be replied, perhaps, that this would depend upon the degree in which hope or despair of fruition mingles with the desire. But, how is it that gambling has such a fascination for some dispositions? Here hope and fear seem to be in equilibrium, and yet the pleasure intense. Objective desires are subdivided into *five* Classes: (1) Corporeal, or Physical; (2) Intellectual-Corporeal, or Æsthetic; (3) Purely Intellectual; (4) Moral, or Ethical; (5) Spiritual, or Religious. Of course, this division is perfectly arbitrary, and we should think not very manageable when put to the test.

The major part of Mr. Turner's book is devoted to the discussion of

the nature and functions of the Will. Volition, he says, is the child of Desire, as Desire is the offspring of Feeling; he seems, however, to shrink from any precise definition of the Will; in fact, he somewhat ingeniously escapes the necessity of such a definition by saying that the Will being not an entity cannot be defined. He, however, describes the functions of the Will as fourfold, Evocative, Directive, Sustentative, and Intensifying. After considering the relation of Volition to the other mental faculties as classified by Hamilton, he next proceeds to compare Will with Law. Here we enter on the happy hunting-ground of all speculative moralists, past and present. Mr. Turner considers Law as the authoritative expression of somebody's will, but he does not seem to grapple very closely with the real problems at issue. Are the cycles of natural phenomena and the events of history determined by intelligent or unintelligent agency? Are there more than one such agency? If so, are they independent or dependent with regard to each other? The answers to these questions have formed the staple of philosophy ever since men began to wonder and to inquire. We know that modern thought is inclined to reduce all power to a single unintelligent physical agency generating the order of the Universe by a process of Evolution. The polar opposite doctrine to this would be the Idealism of Malebranche, Berkeley and others; both, however, being monistic theories, *i.e.*, admitting only one agency. The most common opinion is that which assumes the operation of three agencies, the Divine, the Human, and the Natural; with many variations of doctrine as to their mutual independence or dependence. Mr. Turner seems to favour a somewhat dualistic position. He proclaims the separate efficiency of a divine and human Will, but the apparent power in nature he attributes, as we understand him, to the Divine Will, constantly manifesting itself as physical law or the orderly sequence of phenomena. He lays much emphasis on the subordination of the unintelligent laws of the material universe, to the intelligent Will that prescribes them. Touching the relation of the human to the Divine Will, we are not quite clear as to Mr. Turner's views. He seems disinclined to commit himself to either side of the Arminian and Calvinist polemic. With respect, however, to the absolute and entire independence of the human will, as understood in the controversy between Liberty and Determinism, Mr. Turner avows himself an unhesitating and uncompromising upholder of the Freedom of the Will. On this point he dogmatises for the first time, and to support this doctrine we must suppose that the whole of his work is designed, since he winds up the concluding chapter with the following peroration.

"The ontological significance of the phenomena of Volition, then, when carefully and candidly examined, is the establishment of the position, that the word 'I' is the name of a *real* spiritual entity, that the controlling agent in Volition is a *spiritual* Personality which has an existence distinct and distinguishable from the mental phenomena and processes it controls, and from the physical organism which it employs for the attainment and effectuation of objects, freely chosen from alternative courses, and decided upon in the exercise of this regal power of choice."

The method adopted by Mr. Turner in defending his position against the Determinists is something the same as Mansel's. Both take refuge in a metaphysical morass, far out of range of the artillery of scientific reasoning. Within the province of phenomena science may argue about the dependence of effect and cause. But such considerations do not apply to the domain of noumena, if only we could get there. According to Mr. Turner, in the impenetrable veil of phenomena by which the real and noumenal is hidden, there is one little rift through which the metaphysical eye can peep behind the scenes. In the exercise of Volition we come upon the real noumenal self or Ego guiding and directing the material organism in which it is encased. This Ego being a noumenon is absolved from all obligation to obey phenomenal laws, and disports itself emancipated from circumstances, and reckless of consequences. We do not conceive such a noumenal entity would prove a very trustworthy pilot amidst the storms and quicksands of life. Kant's intuition of duty with its implication of power seems a safer basis for a system of independent morality.

T. W. Levin.

Studies in Deductive Logic: A Manual for Students. By W. Stanley Jevons, LL.D. (Edinb.), M.A. (Lond.), F.R.S. London: Macmillan, 1880. Pp. xxviii., 304.

Prof. Jevons's new contribution to logical literature, in every way a most helpful work, consists of two quite distinct and even to some extent opposed parts. In the first and larger portion, the author gives, in alternate chapters of brief exposition and copious illustration, a summary of the older Aristotelian logic with numerous examples, partly solved as specimens, partly for solution by the student. In the second portion, a very complete survey is given of the peculiar modification of symbolical logic on which Prof. Jevons has expended much labour, together with a selection of examples for practice. The two portions of the work, one is inclined to say, do not hang well together. Beyond all question, the collection of examples here given for exercise in the main forms of the Aristotelian logic is more elaborate and more aptly chosen than in any other similar work with which we are acquainted. But the reader is continually brought to feel that the writer regards these logical forms as antiquated and so far incoherent; the difficulties which present themselves in elementary logic are handled in a perfunctory manner; and in several instances injustice appears to be done to these older doctrines. No writer with a conception of logic and logical method radically distinct from that involved in the examples he is bringing forward is likely to treat the subject with perfect fairness, and something of this defect is undoubtedly to be traced in the first portion of Prof. Jevons's *Studies*. His theory of the nature of thought—for on some theory, however unexpressed, the developments even of symbolical forms must necessarily proceed—is quite opposed to that which lies at the foundation

of the Aristotelian logic with its modern improvements, and the opposition, which prevents a perfectly unbiassed view, has led Prof. Jevons in more than one instance to misinterpret certain of the older logical processes and to treat with undue severity modern exponents of them.

The first chapter of the *Studies* presents us with an instance of what has just been indicated as a defect in the work. The doctrine of Terms is, indeed, as Prof. Jevons says, "a composite and for the most part extra-logical body of doctrine," but the consideration of that which lies at the foundation of the distinctions of terms, the varied forms and formal relations of notions, is an indispensable portion of logic. Doubtless, if we proceed to discuss terms from the basis supplied by popular ideas and grammar, we are in a region quite extra-logical, but no sound theory of judgment and reasoning is possible apart from a careful investigation of the elementary factors of the form of knowledge,—our notions of individual things, of classes, properties, and relations. Terms can only be considered logically as representing or symbolising these forms of knowledge, and the consideration of them becomes extra-logical only when we fail to keep in mind that language rarely corresponds to exact thinking. Much of the difficulty one feels in connexion with Prof. Jevons's own view of logic arises from the fact that all the shades of significance expressed in the various forms of notions are abolished ; that *singular*, *general*, and *collective* lose their peculiar meanings ; and that propositions are made to express an arbitrary simplification in no way corresponding to the real order of thought. Naturally enough, one finds in this first chapter a certain impatience of the older logical distinctions and a looseness of definition which deprive it of much of its value for the student. Prof. Jevons reiterates with increased confidence an opinion in which he is well nigh-singular "that proper names are connotative ;" puts forward without any hesitation a doctrine which might well call for some defence,—"that adjectives are the names of the things to which they are added"; and, in defiance of his own explanation, calls the term *drop of oil* "collective as regards the particles of oil". The existence of so many debatable doctrines is sufficient to show that the analysis of the thought which underlies and gives significance to terms is an indispensable portion of logical theory, and is extremely well suited for furnishing exercise to the reasoning powers of the student.

In the chapter on Conversion and Immediate Inference, there seems a tendency to disregard the real nature of the processes as forms of thought. The impossibility of converting the *O* proposition seems to the author "to constitute a real blot in the ancient logic". But if one considers fairly what was meant by conversion in the older logic, and why it was called a process of inference, one can see not only that this doctrine is correct, but that no other was possible. The problem of conversion is briefly :—Given as datum that a certain subject has or has not a certain attribute or quality or group of attributes or qualities, what can be inferred regarding the

individuals characterised by the possession of this attribute or group of attributes? Given, *e.g.*, that All S is P, what can be inferred of the class P as regards the attributes characteristic of S? The only possible inference is that at least some of the class P have the attributes characteristic of S. Now in the *O* proposition, the datum is that some at least of the class S have not the attributes characteristic of P; and from this datum no conclusion whatever can be drawn as to whether any or all of the class P are characterised by the attributes of S. The older logic supplies readily enough an inference regarding the individuals characterised as not possessing the attributes of P, but neither the older logic nor any modern system would be correct in describing this as a form of conversion. The difficulty which prevents complete comprehension of so elementary a doctrine is, in truth, the want of any satisfactory analysis of the meaning of negative notions and negative judgments, and one would have been glad had Prof. Jevons, whose system abounds in such negative logical quantities, extended any theory of their nature. It may be noted here, by the way, that the first example of so-called conversion of the *O* judgment, worked on p. 37, is formally wrong.

Of the remaining chapters in this first portion of the *Studies*, XII. on Formal and Material Truth and Falsity, and XIV. on Intension, are the most interesting. In the first, there is considerable confusion, arising from the want of any definite statement as to what the author understands by the terms *truth* and *falsity*. The doctrine that a judgment is logically to be viewed as false when it is made "without sufficient grounds" appears quite indefensible, unless under some peculiar definition of falsity. For if one estimates by reference to sufficiency of ground, the same judgment might readily be at once true and false. Each judgment, in short, would be relative to the state of mind of the individual thinker, and the question of its truth or falsity would be purely psychological. We do not see, moreover, for what reason a change is proposed respecting the significance of the time-honoured term *contradictory*. What Prof. Jevons has in mind in the statement that the "contradictory of a proposition is any proposition which involves the falsity of the original, but is not the sole condition of it" is something quite distinct from the older logical theory of Opposition of Judgments. He is really thinking of the opposition between the several terms of a complete disjunction. A and A′ (= not-A) make up a complete disjunction; but if A be a complex notion, involving a and b as constituent marks, then A′ is a series of notions, $ab' + a'b + a'b'$, required as complement of ab to make up the logical universe. Even in such a series there can be given nothing which in the least corresponds to what the author apparently regards as negating a particular relation of two terms, *viz.*, the assertion that no relation at all exists between them. This *want of knowledge* is not a logical datum at all, and one is surprised to find it introduced alongside of such strenuous declarations regarding the purely formal character of logical processes. The example which is worked on p. 117 is not a good instance, for the

proposition there selected is a complex assertion, and the alternative supposed to be neglected is really the *contrary*, not the *contradictory*. Now, the *contrary*, as the older logicians very well knew, may be false or true, when the original is given as false, which, so far as I can make out, is precisely Prof. Jevons's contention.

Chapter XIV., on Intension, I find extreme difficulty in following. No satisfactory explanation is offered of the distinction implied by this term, and the discussion is for the most part a somewhat acrimonious criticism of Sir W. Hamilton's logical doctrines. It has never seemed to me that the application by Hamilton of the distinction between Extension and Comprehension to the forms of Judgment and Reasoning was well-founded; at the same time there has never appeared to be any real difficulty in following the application, provided that the starting-point is fairly kept in mind. Hamilton proceeds to the treatment of judgment and thence to reasoning on the basis of his analysis of the general notion or concept, and as he thought the act of judging to be the comparison of two concepts, he concluded that in the forms of judgment there must appear the peculiarities of concepts as extensive and intensive quantities. That such a theory of judgment is fundamentally erroneous, we think can be shown to demonstration; that Hamilton was successful in carrying out his doctrine, supposing it to be correct, we think more than doubtful; but any just and fair criticism of the details of his logical developments must keep in mind the fact that he did regard the judgment as dealing with notions. Now, we cannot avoid the feeling that Prof. Jevons has overlooked this point in Hamilton's doctrine; that he employs the terms Extension and Intension, as they would not have been employed by Hamilton; and consequently finds that Hamilton's mode of stating judgments differs widely from what he himself would adopt. But this ought not to have led him to misread so much in Hamilton that slight effort would have made intelligible, and to express his condemnation in such fashion as as is here done. There is almost, one would say, a wilful obstinacy in the treatment of the examples quoted from Hamilton, and it is quite surprising that the author should have permitted himself to endorse a wrong-headed criticism by Prof. Bowen, the author of a very excellent American text-book. Bowen—to put the matter in its briefest form—chooses arbitrarily and in defiance of Hamilton's technical terms, to read a syllogism, given by Hamilton as in Comprehension, as a syllogism in Extension, symbolises the relations involved by circles, and naturally finds that the conclusion is erroneous. But he immediately becomes aware of the misinterpretation he has given, retracts the accusation of error against Hamilton's syllogism, and remarks, with quite superfluous gravity, that relations of Comprehension cannot be symbolised by circles.

Inadvertently Prof. Jevons raises a question which has previously been noted in MIND, *viz.*, how far the reading in Intension is applicable to negative and particular judgments. But it appears to me that he quite misses the true answer to this question, which, of

course, can be discussed only under the assumption, for the moment, that there is any necessity for so reading judgments. One would be inclined to mark as inaccurate all the intensive judgments given by him on pp. 128-9; for in all of them the expression *all the qualities of* is used as synonymous with the *qualities making up the Intension of*. In truth Hamilton himself seems to have missed his way in carrying over into judgments the forms of relation between the Extensions and the Intensions of compared notions. He ought to have seen that just as the possible relations of two notions in Extension,—Co-extension, Inclusion, Exclusion, and Intersection,—correspond on his view to modes of judgment in Extension, so the modes of judgment in Intension must have their interpretation supplied by the possible relations of notions in Intension. These possible relations he had classified, but the only one ever referred to, when judgments are under discussion, is that called by him Involution, the correlative in Intension to the extensive relation of Inclusion. Thus All S is P, interpreted in Extension, is—The sphere of the notion P contains the sphere of the notion S; interpreted in Intension, is—The significance or comprehension of the notion S involves the significance or comprehension of the notion P. Now this relation of Involution does not cover all possible relations of comprehension, just as Inclusion does not cover all possible relations of extension. The particular judgment Some S is P would correspond, on Hamilton's view, to Intersection in extension, and would be interpreted to mean, Some part of the spheres of the notions S and P are common. The corresponding relation in Intension would be that of Compatibility: The significance or comprehension of the notion S is compatible with, or capable of being united with, the significance or comprehension of the notion P. This relation of Compatibility retains the peculiar meaning of the particular judgment; it asserts that the constituent attributes S and P are capable of being united; there are SP's, but it does not assert that S involves P, or that every S is an SP. So the relation of Co-extension—All S is all P = The spheres of the notions S and P coincide—has, as its correlative in Intension, the relation of *equipollence* or reciprocal Involution. Hamilton, however, missed the opportunity for carrying out consistently his doctrine of the twofold aspect of notions, and in place of regarding the readings in Extension and Intension as two modes of interpreting a judgment, came to view them as constituting two distinct kinds of judgment, and so blundered into his theory of the Quantified Predicate.

It may be noted here that Prof. Jevons, in the chapter just commented on, at last accepts the view of the nature of the judgment which must always have seemed to his critics the only possible resource for him, although he has been reluctant to give it formal statement. He thinks that "a proposition in Extension expresses the identity of a thing or class of things with the same thing or class under another designation" and that "a proposition in Intension expresses an identity between the attributes of one member and those of the other". The two statements appear to differ slightly, but if we

consider, in respect to the second, that the *one* member and *the other*, being *identical*, can differ only in name, we see that the difference is only in expression, and that, for Prof. Jevons, the judgment is essentially the expression of the identity of meaning of two names. As a name has or may have two meanings, extensive and intensive, we may read the identity in two ways, but identity it remains. Now we cannot but think that this doctrine is still open to the criticism so often passed upon the same view as expressed by Hobbes. It assumes as the essence of the judgment the result which follows when the judgment has been made, and supposes that a particular consequence of any judgment is that which the judgment itself implies. Take, *e.g.*, the proposition *The grass is green.* As the result of this judgment, the subject, which *quâ* subject was indeterminate, has become enriched or is determined by the predicate attribute, *green*: the *grass* is, for us, *green grass*, and there is unquestionably identity of thought between *grass* and *green grass*. But the expression of this identity is as unquestionably not the import or essential form of the judgment; it is only a mode in which I may interpret the result of my judgment and which may be serviceable for testing the validity of inferences from it. All judgments give as consequences more complex or richer notions of the things judged about, but the form or essence of the act of judging is not the expression of an identity between the less and the more complex notions. To suppose so is to reverse the whole order of the progress of knowledge.

On the basis of this view it would appear that the symbolical processes worked out in the second part of the *Studies* have undoubtedly their justification as convenient means for expressing the full consequences of our judgments, for analysing the value of the data for inference supplied by them, and, like other symbolical methods, for giving command over highly complicated forms of assertion, but that they neither necessitate nor rest upon the peculiar theory of the nature of the judgment expressed here and throughout by Prof. Jevons. What one would specially deprecate is the attempt to make these symbolical methods co-extensive with the body of logical doctrine, and to leave over, to Psychology or what not, the important discussions of the foundations of logical forms. A logic which divorces itself from the general theory of knowledge is in my view an imperfect and partial doctrine.

The survey which is given, in the second part of the *Studies*, of the peculiar symbolical method adopted by Prof. Jevons is extremely full and interesting, and the further developments here brought forward, in particular the Logical Index, which is a marvel of ingenious labour, undoubtedly call for attention from experts in the subject. It is impossible to notice in any detail the matters that suggest themselves in connexion with it, but I would note especially the chapters on the so-called Numerical Logic and on the Measure of Logical Force as raising, though not completely discussing, problems of great importance. I altogether agree with Prof. Jevons in his view of Numerical Propositions and would indeed go further, and

banish them entirely from the province of logic. They are mathematical in character and can be dealt with only by mathematical methods. As regards the Measurement of Logical Force, I think that the problem raised is treated rather briefly, but that, if one may judge from a somewhat hurried consideration, the questions involved seem to belong entirely to the general doctrine of combinations. The *conditions* of the combinations are doubtless logical in character, but the method to be applied is purely algebraical or numerical. It would have added much to the value of the work had a general statement been given of the author's views regarding symbolical methods, but it is perhaps unfair to ask that this should be found in what is professedly an exercise-book for students.

R. Adamson.

The Nicomachean Ethics of Aristotle. Translated by F. H. Peters, M.A., Fellow of University College, Oxford. London: Kegan Paul, 1881. Pp. 354.

Mr. Peters is to be congratulated on having performed a difficult task with a great measure of success. His translation of the part shows a knowledge of Aristotle's system as a whole, and he has the gift of brevity. Mr. Williams's translation, with which Mr. Peters's most directly challenges comparison, though vigorous and excellently fitted to give the "English Reader"—if there be such a person—a view of Aristotle's Moral Philosophy, is not so delicately *en rapport* as Mr Peters's with the style of an author in whose works almost every sentence lives with the life of the whole system; hence while Mr. Peters can trust to the general impression produced by his translation of the entire work, Mr. Williams is often tempted to explain difficulties on the spot by paraphrastic renderings. Mr. Peters's work is thus considerably shorter than Mr. Williams's. In this brevity we seem to have a measure of the success with which Mr. Peters has grappled with a difficult task. Schopenhauer never said a more superficial thing than when he said that Aristotle thought pen in hand. If so, why is he so brief and so hard to translate?

In translating or explaining a work like the *Ethics*, different people will of course hold different opinions with regard to special points and passages; and the translator seems to be in a more disadvantageous position as regards his critics than the annotator, because he must commit himself without comment to a definite rendering. In the Introduction which Mr. Peters promises, he will doubtless take occasion to defend several of his renderings; and we do not think he will find the task as a whole a difficult one. While the general style of his work is elegant and lucid (the paragraph-divisions are very suggestively arranged), his treatment of a disputed or difficult passage seldom fails to recommend itself on grounds connected with the context, and on the general principles of Aristotelian philology. Book vii., ch. 3, may be taken as a good example of Mr. Peters's treatment of the easy and the difficult.

Where the general character of a work is so high, it may seem ungracious to point out what appear to be small blemishes ; but perhaps, on the whole, some good may be done by the following notes which relate to renderings with which the present writer is not satisfied :—

P. 7 : "*and* on the ground of their virtue". Rather, "*i.e.* on the ground of their virtue," *καί* having an illative force.

P. 17 : "straight line." Rather, "right angle" (see *Index Arist.* under *εὐθεῖα* and *ὀρθή*).

P. 42 : "*Everything psychical*, etc." (ii. 5, 1). This is saying too much. *Εὐδαιμονία* and *αἱ κατ' ἀρετὴν ἐνέργειαι* (x. 3, 1) are not *ποιότητες*, and yet are psychical. He here confines himself to psychical *ποιότητες*. Rather, "Every psychical quality, etc.".

P. 55 : "tack as we cannot run". Menander (as quoted by Stobaeus *Flor*, vol. ii., p. 349, Teubner) seems to be conclusive against this rendering of *κατὰ τὸν δεύτερον πλοῦν*. Stobaeus writes—*Μενάνδρου ἐκ Θρασυλέοντος—ὁ δεύτερος πλοῦς ἐστὶ δήπου λεγόμενος, ἂν ἀποτύχῃ τις οὐρίου κώπαισι πλεῖν.*

P. 63 : "The ignorance that makes an act involuntary is not this ignorance of the principles which should determine preference (this constitutes vice)—*not, I say, this* ignorance of the universal, etc." Surely (iii. 1, 15) *ἡ καθόλου* (*ἄγνοια*) introduced by *οὐδέ* is *distinguished from ἡ ἐν τῇ προαιρέσει ἄγνοια—i.e.*, the ignorance of the *ἀκόλαστος* is distinguished from that of the *ἀκρατής* whose *προαίρεσις* or choice of means is thwarted by present pleasure, although his end is good. This seems to us the easier way of meeting the undoubted difficulties of the passage ; but we are fully sensible that the words *ἀλλὰ τῆς μοχθηρίας* are in Mr. Peters's favour, although we think that the *οὐδ'* immediately following them is against him. The words *ψέγονται γὰρ διά γε ταύτην* too seem to imply that *ἡ καθόλου* is not merely a repetition of *ἡ ἐν τῇ προαιρέσει.*

P. 66 : "The continent man, on the other hand, deliberately chooses what he does, *but does not desire it.*" Better, "acts from deliberate choice, not from mere desire."

P. 66 : "but there cannot be a conflict between desire and desire." Surely there can. The word *ἐναντιοῦται* (iii. 2. 5.) implies that the opposition between one desire and another desire is not *contrary* opposition—they are not *ἐν τῷ αὐτῷ γένει, i.e.*, concerned with the same object.

P. 149: "by the penalty." *Cf.* Rassow *Forsch.* p. 122, whose view seems to be correct.

P. 152 : "In these *voluntary* transactions" (v. 4. 14). Here Mr Peters agrees with Ramsauer, who suggests that *τῶν παρὰ τὸ ἑκούσιον = ἐν τοῖς ἑκουσίοις.* This suggestion, most improbable in itself, seems to us to deprive the § 14 of its point.

P. 152 : "with his (the patient's) consent" (v. 5. 5). Rather, "voluntarily (by the agent)."

P. 184 : "For *we may say roundly* that whatever is necessary is eternal". *Τὰ ἐξ ἀνάγκης ὄντα ἁπλῶς*, Things necessary *per se*, are opposed to *τὰ καθ' ὑπόθεσιν ἐξ ἀνάγκης*—the premisses of a dialectical

syllogism which are necessary *pro tempore* not *per se*. Eustratius *ad loc.* (vi. 3, 2) says—ἁπλῶς δὲ λέγομεν ἐξ ἀνάγκης ὅσα μὴ καθ' ὑπόθεσιν ἐξ ἀνάγκης, οἷον τὸ καθῆσθαί τινα· ἔστ' ἂν κάθηται ὁ καθήμενος ἐξ ἀνάγκης εἶναι λέγομεν τὸ καθῆσθαι αὐτὸν ἀλλ' οὐχὶ ἁπλῶς. Mathematical truths are τὰ ἐξ ἀνάγκης ἁπλῶς.

P. 193: "though it admits of great variety"—"*i.e.*, varying as the good varies" (foot-note). Rather, "presents a large specific difference," διαφορά (vi. 8, 4) being suggested by the foregoing εἶδος, *species*. Knowledge of the good for man is the *genus* which has two *species* (1) knowledge of what is good for others—πολιτική, and (2) of what is good for one's self—φρόνησις in the narrow or specific sense. This latter species is so striking (ἔχει διαφορὰν πολλὴν) that it has appropriated the generic term φρόνησις to itself, while consequently the other species—knowledge of the good of others—is deprived of its proper name, and nicknamed πολυπραγμοσύνη.

P. 198: "just as the learner in science is said to show intelligence when he makes use of the scientific knowledge which he hears from his teacher" (vi. 10, 3). τὸ μανθάνειν here means 'to understand' rather than 'to learn,' and τῇ ἐπιστήμῃ is the knowledge (general or special) by means of which an intelligent person *understands* what another says—*e.g.*, a man's knowledge of German enables him to understand a conversation in that language. So the συνετός understands or appreciates moral or political advice when he hears it.

P. 200: "on the one hand in connexion with deductions [of general truths in morals and politics] reason apprehends the unalterable first principles". Surely the author here speaks of the νοῦς θεωρητικός, and the ὅροι ἀκίνητοι καὶ πρῶτοι are the definitions of mathematics, not the principles of morals and politics which are not necessary—at least ἁπλῶς.

P. 258: "for here there is similarity and the rest". ὅμοια surely cannot mean 'similarity'. ὅμοιοι the reading of K^b. and of El. (Cambridge) seems almost certainly to be right (viii. 3, 7).

P. 327: "*most* motions are incomplete" (x. 4, 3). αἱ πολλαί is rather "the various moments or parts (each incomplete) of the whole (complete) motion".

P. 353: "These compendia *which the sophists make* do not seem even to make a man able to heal" (x. 9, 21). The compendia here mentioned are *medical* compendia made by medical men, not the political compendia made by the sophists. The mere perusal of medical works does not make a man a good doctor; nor does the perusal of the political compilations of the sophists make a man a practical politician.

The foregoing notes, as will be observed, refer solely to matters of detail. Indeed it is only in these, and a very few other such matters, that we are not satisfied with Mr. Peters's work. Of his general grasp of Aristotle (we use the wide word advisedly) and of his technical skill as a translator, we cannot speak too highly. We venture to predict for his work a long and useful career.

J. A. Stewart.

Die Sprache des Kindes. Eine Anregung zur Erforschung des Gegenstandes. Von Dr. Fritz Schultze. (No. 10 of "Darwinistische Schriften".) Leipzig: Günther, 1880. Pp. 46.

This little work is a study of the beginnings of articulate speech in children, mainly from a physiological point of view: the author considers that the pursuit of such inquiries may in course of time be found to throw considerable light on the wider problems of historical philology and the origin of language. Special attention is paid to the order in which the particular vowel and consonant sounds are produced. Among consonants the labials and linguals come first, in Dr. Schultze's opinion; not only because they are the easiest in themselves, but because the muscular apparatus of the lips and tongue has the start of the rest of the vocal organs by being exercised in sucking from the very first. Hence the general similarity of the childish names for father and mother among widely different races of men. Dr. Schultze works out in some detail the doctrine that the formation of sounds in learning to speak always takes the line of physiological least resistance; and he points out that a similar law may be traced in the corruptions of adult language in the mouths of children who have not yet mastered the sounds. "The child substitutes for the still unpronounceable sound, whether vowel or consonant, the most nearly allied sound which it can produce with less trouble; but if this too is still beyond its powers, the sound is just omitted altogether." Thus we may work out a "Lautverschiebungs- oder Verstümmelungs- oder Verwandlungsgesetz der Kindersprache". At the same time Dr. Schultze guards himself against premature conclusions in detail: he observes that the materials in the way of collected observation are as yet insufficient, and that owing to inherited physical aptitudes the relative physiological difficulty of particular sounds may be, and probably is, very different in different races. According to Dr. Schultze's observations, the order in which consonants are produced by German children is as follows: first group, P, B, M, F, W, D, N, (T seems omitted by a slip of the pen); second, L, S; third, Ch, J (= Eng. Y); then Sch, then R, and last of all Ng, K, and G. The present writer's observation of an English child gave not quite similar results: first came M, B, D, W, N; T, P, somewhat later; K and G were formed nearly or quite as soon as W, V, and F; Sh came before S, the palatals and aspirates much later, and R last of all. The earliest vowel-scale, as noted by Dr. Schultze and others in Germany, was *ä, o, u;* I found it to be *á, a* (not the Continental short *a*, but that of Indian languages, the obscure *Urvocal* of unemphasised *that* or *but*), *i: o* came a good deal later. I noted many sounds, both vowel and consonant, which do not occur in adult English at all. Dr. Schultze cites, besides a good deal of German literature on the subject, Mr. Darwin's and M. Taine's work: he does not seem to be acquainted with the not unimportant observations of M. Bernard Perez and M. Egger.

Perhaps I may be allowed to take this occasion as a sufficiently

relevant one for continuing my own notes on infants' language. The subject of the present observations is a boy.

The first certainly articulate sounds were noted at the age of nine months: *da da*, *na na*, and soon afterwards *ba ba*, *wá wá*. Contentment seemed to be expressed by *da da*, the contrary by *na na*. Laughter was fully developed at five months, and the expression of distinct emotions by the voice (though not articulately) at about eight months.

At about 13 months a vocabulary began to be formed, which increased rapidly. At 15 months it stood, so far as I could be sure of it, as follows. The list is probably incomplete, but it is safer to err on the side of omission. The doubling of a final consonant denotes a strong dwelling on the sound: other signs are used as in my previous notes (MIND XI.).

ba wa. Dog (recognised in picture).

bá. Bath, ball, box: different shades of sound for each meaning.

bm or *brm.* General expression of desire: this was soon dropped.

bwá. Brush, also *bash*, on seeing crumbs on the floor.

dá dá. As proper name for his father.

dah. Dog.

dan. Down (generalised to ask for change of position in any respect).

dáh. Door.

de ti. Jessie (his nurse's name).

denn. Again (to ask for action to be repeated).

dlam. Drum.

dok-tah. Doctor (in picture-book).

dwá. Drawer.

fawá. Flower (including all kinds of foliage).

gon. gone away.

ji ji or *zi zi.* ("Gee-gee").

káh. Cock (a toy containing sugar-plums).

kík'n or *k'k'n.* Kitchen.

'm 'm. Mule (habitually seen drawing milk-cart).

pé pé. Play (music).

peh peh. Paper.

pemm. Pen or pencil (constantly demanded as plaything): this became "pen" a few months later.

plí. Please.

puf or *pf.* Cat.

's 's. Yes; assent in general. Later *es es.* The full sound of "yes" was acquired only at about two years old.

ti ti or *ti ta.* Clock.

tik. Stick.

In the following months words were fast added, and dissyllables came into use. At 1 year 8-9 months the boy spoke of himself as "Dak" (for "Jack"—short *a* sound as in Fr. *Jacques*), and began to make short sentences, as: "up please dada"; "cuppy please play with". "No thank you" was a favourite phrase. The tendency

to generalise terms was well marked. "Coffee" (from coffee-mill) was a name for everything exhibiting or suggesting circular motion—a pepper-mill, a music-stool, a hanging gas-lamp. "Moon" or "moon shining," sometimes also "sun shining," was applied to every bright round object, such as a watch-case. About two months after this a comparatively long and elaborate sentence is reported: "forky dada say no—spoon may."

At the age of 2 years 1-2 months the pronoun *I* is mastered; which in the case of the girl whose progress in language I formerly recorded did not happen till considerably later. Sentences are formed with greater ease, and marked pleasure is taken in repeating them. Singular and plural are distinguished in nouns, but the verb is still oftener than not an uninflected crude form, *e.g.*, the sentence "dada come home" may be future, optative, imperative, or preterite, according to circumstances.

The inflected forms of the auxiliary and other very common verbs are, as one might expect, the first acquired. Here is a continuous sentence uttered at the age of 2 years $1\frac{1}{2}$ months, and containing an inflexion together with so much syntax as is involved in the distinct combination of protasis and apodosis: "When dada done tea, kind dada bring milk Jacky." Some pride was taken in the formation of this, as it was repeated two or three times with evident pleasure. Two or three months later questions are constantly asked, often with apparent indifference whether they are answered or not, and perhaps, therefore, merely as an exercise in conversation. Narrative is also attempted, but so far with more verbal repetition of what elders have already said than independent expression in words of the child's own choice.

F. Pollock.

VIII.—NEW BOOKS.

[*These Notes do not exclude, when they are not intentionally preliminary to, Critical Notices later on.*]

Anthropology: An Introduction to the Study of Man and Civilisation. By Edward B. Tylor, D.C.L., F.R.S. With Illustrations. London: Macmillan, 1881. Pp. 448.

There cannot be two opinions as to the art with which Mr. Tylor has managed in this book to open out a connected view of the various lines of investigation now grouped under the name of Anthropology, and to summarise the general results attained by the multitude of recent inquirers. Though he aims, within his limits, at a statement only of representative facts, the number that he has been able to mass together in a form as interesting as it is instructive, betrays the sure touch of a master. It is truly one of the fullest of books. Among so many subjects, all treated with admirable skill, if one may be singled out for special mention here, it should be Language. The

two chapters (pp. 114-52) which Mr. Tylor devotes to Language in itself, seem to us to contain an almost unexceptionable statement of the best results of modern science, psychological and other, on the subject. We will note further only the particular conception of Anthropology which has guided the author in writing this introduction to its study. He would add it to the curriculum of education as a means of giving connexion and unity to the multitude of scattered subjects that are now taught without reference to their use for the purposes of life. There is not one of "the branches of education in knowledge and art . . . which may not be the easier and better learnt for knowing its history and place in the general science of Man". The topics treated, in order, with this view are—Man, ancient and modern; Man and other Animals: Races of Mankind; Language; Language and Race; Writing; Arts of Life (pp. 182-286); Arts of Pleasure; Science; The Spirit-World; History of Mythology; Society.

Sight: An Exposition of the Principles of Monocular and Binocular Vision. By Joseph Le Conte, LL.D., Professor of Geology and Natural History in the University of California. With Numerous Illustrations. ("International Scientific Series.") London: Kegan Paul & Co., 1881.

This is, in its way, a noteworthy book. The author has been all his life interested in the subject of vision, and has long been occupied in making independent investigation of it from the physical and physiological side. Some of his results are new, while his exposition and mode of illustration are never other than original. He has not failed in his aim of producing a book that should "be intelligible and interesting to the thoughtful general reader, and at the same time profitable to even the most advanced specialist". Especially in dealing with the problems of binocular vision, he has given a more exact determination of some of the data than may be found elsewhere. At the same time, he certainly cannot be said to have reached the level of general interpretation that is maintained by an investigator like Helmholtz, who never neglects psychological considerations; or by one like Wundt, who always keeps them uppermost in his thought. What can be done for the explanation of vision without psychological analysis, the author has done; but not more. Not that he refuses to take account of psychology. It is done, however, in such wise as may be judged from sentences like these:—

"If, therefore, these nerve-fibres [olfactory] are irritated in any way, even mechanically, they (!) do not *feel* but *perceive* an odour."

"It is wholly by virtue of this supplementary instrument [specialised peripheral structures in ear and eye] that we are able to hear not only sound but *music*, or to see not only light but *objects*." (Note the analogy—music-objects.)

"The direct data [of sight] are only *light*, its *intensity*, *colour*, and *direction*. These are incapable of further analysis, and are therefore simple sensations." (Note the distinction of the first three, and the addition of such a fourth to them, as all alike "simple sensations".)

Bacon. By Thomas Fowler, M.A., F.S.A., Professor of Logic in the University of Oxford; Fellow of Lincoln College. ("English Philosophers.") London: Sampson Low, 1881. Pp. 202.

Hartley and James Mill. By George Spencer Bower, B.A., of the Inner Temple, Barrister-at-Law; late Scholar of New College, Oxford. ("English Philosophers.") London: Sampson Low, 1881. Pp. 250.

The rule of this Series is to issue two volumes simultaneously at brief intervals. In the first of the present couple, Prof. Fowler seeks "to present the character of the revolution which Bacon endeavoured to effect in scientific method as well as the nature of his philosophical opinions generally, in a form intelligible and interesting to readers who have no acquaintance with logic or philosophy". A biographical sketch and general account of the works (filling together about a third of the volume) are followed by critical summaries of Bacon's survey of the sciences and reform of scientific method (pp. 66-158); and two concluding chapters are given to his philosophical and religious opinions, and influence on philosophy and science. More particularly in these last chapters, Prof. Fowler makes, as he says, free use of what he has already written in the Introduction to his edition of the *Novum Organum*, reproducing to a great extent *verbatim*. Some of his points, when first presented, were challenged in this journal (XIII., 125), but apparently he has seen no reason to change his mind on any of them, beyond inserting a passage (p. 166) which allows that at least Locke had doubts about the 'faculty'-hypothesis. (What important English thinker from Hobbes had not?) At p. 195 Huyghens and Boerhaave are hastily set down as Germans.

Mr. Bower, after his biographical sections, gives, in the largest part of his work (nearly 200 pp.), a face-to-face exposition of the more characteristic doctrines of Hartley and James Mill. In choosing this way of presentation he has not considered his own ease, and the result of his labour is all the more valuable, though there is necessarily a less distinct impression given of each man's work. But it would have been more to the purpose for the understanding of that Associationist movement in philosophy in which the two thinkers here conjoined have figured so prominently, if Mr. Bower—instead of sweeping up into his last part on "the value and influence of their opinions" everything in later writing that can (or cannot) be connected with them—had more accurately and sufficiently defined the relation of Hartley's thought to that of his predecessors, and more especially of his contemporary Hume. It needs to be explained how, after Locke, there began to be noted under the name of Association a general principle of mental synthesis, instead of a mere aspect of the phenomena of memory. Even if Berkeley's advances towards the wider conception had been left unmentioned, some pains should have been taken to explain how Hume, a few years before Hartley, was giving Association its widest possible application (though not in the same spirit of serious construction). All that Mr. Bower has to say

about Hume, beyond noting a reference to him by James Mill (p. 43), is the incidental remark (p. 225), that it is not "certain (according to Coleridge) that there was any originality in Hume's Essay on Association!" What he otherwise states, there or earlier, of Hartley's forerunners is of no value.

The Metaphysics of the School. By Thomas Harper, S.J. Vol. II. London: Macmillan, 1881. Pp. 757.

Father Harper continues his stupendous undertaking begun in 1879. His present volume, considerably larger than the first, covers the "Principles of Being" and the first two of the "Causes of Being" —Material Cause and Formal Cause. Efficient Cause will occupy the greater part of the next volume, and not till this appears will he be able fully to keep his promise of showing the harmony that exists between the metaphysics of the School and the latest physical discoveries. He makes, however, considerable progress towards this end in the present volume, not only in running observations, but in a special Appendix (pp. 730-48) where he brings together the teaching of Aquinas touching the genesis of the material universe, and concludes "that there is nothing in the *principle* of natural evolution which is not in strict accordance with the teaching of St. Thomas and the Fathers of the Church. On the contrary, the latter [meaning St. Augustine] taught it some fifteen hundred years ago." It is otherwise part of Father Harper's plan to confront the scholastic doctrine with the dicta of later philosophers, and in the present volume this is more expressly done by the interpolation of a critical section (pp. 90-142) on the synthetical *a priori* judgments of Kant, led up to through a short review of Descartes and a longer review of Hume. There is no want of vigour or intelligence here in the author's polemic. To say nothing of his own speculative power, the care and labour he bestows on the general exposition of the scholastic doctrines are truly astonishing. It will be the duty of some courageous spirit, one day, to essay the task of tracking Father Harper along his whole course, and to give some compendious report, in this journal, on the vast regions of thought he has opened up for the spiritual reclamation of erring moderns. Meanwhile it is only possible to note that he is on his way, and has now accomplished half his task.

Kant and his English Critics. A Comparison of Critical and Empirical Philosophy. By John Watson, M.A., LL.D., Professor of Moral Philosophy in Queen's University, Kingston, Canada. Glasgow: Maclehose, 1881. Pp. 402.

This work (the first chapter of which, in slightly different form, appeared in Mind XII.) will be critically reviewed later on. The author describes it in the following terms:—

"In this work an attempt is made to point out the misconceptions of its real nature that still prevent Kant's theory of knowledge from being estimated on its merits, notwithstanding the large amount of light recently cast upon it, and to show that the *Critique of Pure Reason* raises, and parti-

ally solves, a problem that English Empirical Psychology can hardly be said to touch. . . . I have thought it advisable to prepare the way for a defence of the Critical theory of knowledge, and for a comparison of it with Empirical Psychology, by a short statement of its main positions as contained in the *Kritik der reinen Vernunft* and the corresponding sections of the *Prolegomena*, together with the *Metaphysische Anfangsgründe der Naturwissenschaft*. . . . To the 'Refutation of Idealism,' the principles of 'Substance' and 'Causality' and the 'Metaphysic of Nature,' in its relation to Mr. Spencer's *First Principles*, a good deal of space is . . . allotted. The direct criticisms which I examine are those of Mr. Balfour, Mr. Sidgwick and Dr. Hutchison Stirling. . . . By far the larger part of the work is occupied with the exposition and defence of Kant's system, and with the contrast of Criticism and Empiricism in their fundamental doctrines. In the last three chapters, however, an attempt is made to show that while right in principle, the theory of knowledge presented in the *Critique* is not altogether free from incoherent elements incompatible with its unity and completeness."

The Creed of Science, Religious, Moral and Social. By William Graham, M.A., Author of *Idealism: An Essay, Metaphysical and Critical.* London: Kegan Paul, 1881. Pp. 412.

This is a work of unmistakable power on subjects of the highest and widest interest. The following sentences from the author's Introduction will, for the present, give some notion of its scope.

"I propose in the following pages to give the chief conclusions reached by Modern Science on the central questions of religion, morals and society —to state, in a word, the general creed of Science; and, as the scientific faith may still be fallible or of unequal degrees of merit, I propose, in the second place, to offer some criticism on some of its more doubtful articles with a view to their reconsideration and revision. . . . In the absence of any single and universally acknowledged authority on all articles of faith and doctrine, I have taken the consensus of scientific opinion amongst the few highest authorities on each particular article, and I have treated this as the orthodox teaching of Science—as what would have been the decision had all such authorities met together in Council to fix the faith. . . . On all questions concerning man himself, his virtues and vices, and the uniformity, such as it is, which his life in society presents, we are properly referred on the part of science to a different order of specialists—to the psychologist, the moralist, the sociologist, to such authorities as Mill, or Bain, or Herbert Spencer, who, in addition to their writings on the philosophy or logic of the sciences, have dealt expressly and from the scientific point of view with ethical and social questions. . . . Our new scientific philosophies must be content . . . to be valued by their powers of recommending themselves to the most developed human reason, including the universal human interests; and when they have been thus tried and valued, I venture to predict that none of our new interpretations of the universe . . . will give full and final satisfaction."

Hindū Philosophy. The Sānkhya Kārikā of Īśwara Kṛishṇa. An Exposition of the System of Kapila. With an Appendix on the Nyāya and Vaiśeshika Systems. By John Davies, M.A. (Cantab.), Member of the Royal Asiatic Society. London: Trübner, 1881. Pp. 151.

The work here translated is probably the oldest extant exposition of the philosophic system, called Sankhya, of Kapila, who is believed to have lived in the 7th or 8th century, B.C. The system contains, according to the translator, nearly all that India has produced in the department of pure philosophy; and "is the earliest attempt on record to give an answer, from reason alone, to the mysterious questions which arise in every thoughtful mind about the origin of the world, the nature and relations of man and his future destiny". Iswara Krishna's exposition was previously translated into English by H. T. Colebrooke. The present new rendering is provided with considerable comments and notes, material as well as verbal; the translator being especially concerned to bring out the affinities between the philosophies of Kapila on the one hand, and of Spinoza, Schopenhauer and Von Hartmann on the other. The thought of the last two, he considers, "is mainly a reproduction of the philosophic system of Kapila in its materialistic part, presented in a more elaborate form, but on the same fundamental lines". A short supplementary account is given also of the Hindu logic and physic.

Materialism Ancient and Modern. By a late FELLOW of Trinity College, Cambridge. London: Macmillan, 1881. Pp. 43.

The outcome of this short essay in which the different forms of materialism are reviewed may be gathered from the following extract—

"Comparing then the material hypothesis with that of an intelligent power, we find that, while the first accounts for some material phenomena but fails entirely to explain the existence of sensation or any other mental phenomenon, the second, if adopted, is sufficient to account for all phenomena, both mental and material.

If the author had followed the recent discussions on "Mind-stuff," he would hardly have written what stands on p. 27.

Definitions and Axioms of a Future Science of Existence or Ontology. A Study by KARL FRIEDRICH FRÖBEL. London and Edinburgh: Williams & Norgate, 1881. Pp. 160.

The author makes the following statement:—

"An attempt is made in this 'Study' to explain on reasonable grounds—not by presumed 'Causes'—the existence of stars, of the different chemical substances composing them, the geometrical regularity of the form and structure of crystals, the origin and evolution of cells, the growth of plants, the spontaneous motions and the senses of animals, the principle of all life—not as a product of 'living forces,' but—as the natural realisation of the *eternal* laws of space, time, and being, considered as the creative and evolving *powers* in material Nature;—all this, on the assumed certainty that this world, the material object of consciousness and reason, is not a dream, but a given reality, the most certain of all certainties. This Study also tries to explain the reasonable relations of Mind and Body, of Spirit and Matter, and the rational conviction of the possibility of a future personal life after death. *Moral* power is defined as the realised union of the three *natural* powers in the human Self or Ego."

Aspects of German Culture. By GRANVILLE STANLEY HALL, Ph.D., Harvard University, Lecturer on Contemporary German Philosophers and on Pedagogy. Boston: Osgood, 1881. Pp. 320.

Under this title Mr. G. S. Hall, who is well-known to the readers of MIND, brings together, with some of his contributions to this journal, a number of letters on various topics, social as well as philosophical, addressed by him to the New York *Nation* during a residence in Germany from 1878 to 1880. The collection is heterogeneous enough, but perhaps all the better fitted to give an impression of the manifold activity of the German mind in these days. Probably no other English-speaking student of psychology and philosophy has acquired half as much familiarity as Mr. Hall with every phase of the present intellectual movement in Germany, and his brightly-written sketches are full of instruction not easily to be had otherwise.

L'Apperception du Corps humain par la Conscience. Par ALEXIS BERTRAND, Professeur agrégé de Philosophie au Lycée de Dijon, Docteur ès-Lettres. ("Bibliothèque de Philosophie Contemporaine.") Paris: Germer Baillière, 1881. Pp. 328.

The author, grounding chiefly on Maine de Biran, asserts that there is an echo of the bodily life in the mind—a continual and vague sentiment of the organism in consciousness; and proceeds, in this reference, to review the later psychological results that have been attained from the physiological side. In five parts he deals successively with Sense of the Body and Consciousness (subjective physiology, sense of the body); Life (structure and functions of the body, polyzoist animism); Sensation (sensorial activity, localisation of sensation); Effort (effort and movement, effort and brain); The Real Ego (hallucination of the sense of the body, with general conclusions). His work is a good specimen of the kind of psychological monograph now being produced nowhere more actively than in France.

L'Être Social. Par ARMAND HAYEM. Paris: Germer Baillière, 1881. Pp. 214.

An answer to a question propounded by the *Académie des Sciences morales et politiques*—to investigate the reasons of the difference that may exist in the opinions and moral sentiments of the different parts of society. The answer was not considered to be sufficiently directed to the question; but the question was indefinite enough. The author seeks his solution in a general consideration of "the organic and constitutive causes of the social being," supplemented by a view of the varieties of individual existence.

De l'Esprit Moderne: ou Essai d'un nouveau Discours sur la Méthode. Par DANOVER. Paris: Germer Baillière, 1881. Pp. 119.

The author describes the "modern method" in the usual terms as a method of slow generalisation which can never arrive at any but relative principles; but, farther on, concludes the existence of a final

principle on the ground of the liberty of human volition. However, such final principle, though it exists, may not in the scholastic thought, be directly attained; everywhere we seize only relative forms. So in morals and politics, to which he is chiefly concerned to apply his reasonings, he maintains that we can no longer find an absolute principle: the interpretation of the precepts or rules of morality is progressive and will go on developing.

Vers d'un Philosophe. Par M. Guyau. Paris: Germer Baillière, 1881. Pp. 208.

M. Guyau, who has written two important works that have been noticed at length in Mind *(La Morale d'Épicure* and *La Morale anglaise contemporaine)*, has taken now to verse for the expression of his thought, and justifies himself thus in some words of preface:

"We think that the only way of maintaining the position of poetry in face of science, is to seek truth in it as in science, but under another form and by other ways. . . . It will be objected that the abstract conceptions of modern philosophy and science are not suited to the language of verse. We answer that philosophy also, on certain of its sides, touches the concretest of things and the subject of most passionate interest, in dealing with our very existence and our destiny. Philosophy tends in these days to take the place of religion, which formerly was one of the great sources of poetry."

Two of M. Guyau's pieces may more especially be noted—"Illusion féconde" and "Analyse spectrale"; the one being the poem of human, the other of cosmical, destiny.

Grundzüge der physiologischen Psychologie. Von Wilhelm Wundt, Professor an der Universität zu Leipzig. Zweite völlig umgearbeitete Auflage. 2 Bde. Leipzig: W. Engelmann, 1880. Pp. 500, 472.

Of all the books on psychology this work is undoubtedly the most indispensable to the student who seeks to become familiar with the science in its present phase. The new edition is a great improvement upon its predecessor, published seven years ago; not only is it "brought down to date," but a good deal of problematic anatomy is replaced by matter better ascertained and more directly psychological. Moreover, even what is in substance common to the two editions has been in many cases recast, and is more clearly stated in the second. On several points of importance, too, the author's views have advanced in the interim, though, unfortunately, he has not definitely indicated these changes either in his preface or in the course of the work. The most noteworthy additions are those in the latter half of the work, which now forms a separate volume. What was before a single chapter of "Concluding Reflections" has grown into a separate section, treating of the metaphysical hypotheses concerning the nature of the soul, and of the psychological and psychophysical standpoints with the respective theories of our internal experience to which they lead. The two sections preceding this last are also considerably expanded, *viz.*, that entitled "Of Consciousness and the Train of

Ideas," and that entitled "Of the Will and its External Manifestations". In the former of these, Professor Wundt describes at length a number of interesting experiments carried on by himself and some of his pupils to determine the time required for the "apperception" or recognition of presentations of varying degrees of complexity, as also the further time required in order that such a presentation may call up another associated with it. In experiments of this nature, Professor Wundt had already acquired considerable reputation: his new researches make it plain that a thorough knowledge of the time occupied by different elementary mental processes would do much to establish the psychology of these processes on an exacter basis. The forms of Association, which were disposed of in a very summary fashion in the first edition, now get a roomy chapter all to themselves. In the section on Volition and Movement, the author has added a new chapter, in which he treats of the development of the Will, and goes out of his way to discuss Free-will and Determinism.

The changes in the first volume are, on the whole, of less account. The numerous and important books and memoirs upon neural physiology and anatomy that have appeared since 1873 are laid under contribution; but upon the questions in dispute between Goltz on the one side and Munk and Ferrier on the other, Professor Wundt gives a very uncertain sound, and in truth the time for a decision is not yet. In like manner the recent literature of Weber's Law is ably summarised and discussed, and the author's own views on this matter restated and readjusted.

The printing and illustrations, of which there are 180, are, as would be expected from the publisher, excellently done. [J. W.]

Logik: Drei Bücher Vom Denken, vom Untersuchen und vom Erkennen. Von Hermann Lotze. 2te Auflage. Leipzig: Hirzel, 1880. Pp. 608.

Professor Lotze has had to issue this second edition of the first part of his "System of Philosophy," begun in 1874, before the appearance of the third and concluding part; the second part, *Metaphysik*, appeared in 1879. The new edition of the *Logik*, otherwise little changed, includes a Note (pp. 256-69) upon Logical Calculus, occupied chiefly with Boole, but touching also on Professor Jevons. The author is a strenuous supporter of the traditional logic, as superior in principle to the newer methods and not inferior in practical efficiency when handled with sufficient freedom. An English translation of the *Logik* and the *Metaphysik*, made by some Oxford admirers of Lotze's philosophical genius, is understood to be in such a forward state that it may see the light before many months; and criticism in these pages of either volume may most conveniently be deferred till the translation appears. It will be a great service done to the cause of philosophy in this country, if, as there is good reason to expect, the translators give an adequate rendering of the "System" with which the great German thinker is crowning the work of his life.

Die Naturgesetze und ihr Zusammenhang mit den Prinzipien der abstrakten Wissenschaften. Für Naturforscher, Mathematiker, Logiker, Philosophen und alle mathematisch gebildeten Denker. Von Dr. HERMANN SCHEFFLER. 3 Theile; 8 Lieferungen. Leipzig: Foerster, 1876-80.

Mr. Venn has begun to draw attention to this stupendous work by noting in his *Symbolic Logic* that the author in Part III. (1880), when he comes to "Logical Laws," has worked out a system of diagrammatic notation similar to that which he had himself independently devised. Farther notice of this part of Dr. Scheffler's work, "The Theory of Knowledge or Logical Laws," which extends to nearly a thousand pages, is reserved. Of the other parts, covering some three thousand pages, it must suffice to say that they deal with "The Theory of Intuition or Mathematical Laws," and "The Theory of Appearance or Physical Laws". He addresses equally "natural inquirers, mathematicians, logicians, philosophers, and all mathematically-trained thinkers". His order of treatment is determined by the stage of development reached by the different departments of knowledge. Hence, though he is firmly of opinion that mathematics rests upon logic and logic upon philosophy, he begins with mathematical principles, and only after he has applied them in explanation of the physical laws takes up logic, to end last of all with philosophy.

Schopenhauer's Erlösungslehre. Von Dr. RAPHAEL KOEBER. Berlin: Duncker, 1881. Pp. 51.

Objective Idealism is not, as Hartmann thinks, an undeveloped element in Schopenhauer's philosophy by the side of the four main elements which he notes as idealism, realism, spiritualism, materialism; but is the true, though purposely concealed, basis of the system, and alone gives meaning to its central doctrine of Deliverance.

IX.—MISCELLANEOUS.

Mr. Venn sends the following:—

"In a list of references in my recently-published *Symbolic Logic*, I mentioned an essay by Castillon, *Sur un nouvel Algorithme logique* (Berlin, 1803), but added that every effort to procure a sight of it had failed. The words were scarcely printed off when accident brought the work into my hands, and I now find that it was first published in the *Memoirs of the Berlin Academy.*

"Regarded as a development of Symbolic Logic generally, Castillon's results are scanty and of little value; but they seem of real interest and importance in one respect, inasmuch as they represent the most consistent attempt I have ever seen to carry out the *intensive* interpretation of terms and propositions. Many have professed to do this, and some have made

partial attempts in this way ; but Castillon seems almost unique in facing the consequences of the undertaking. Starting with the assumption that all logic consists in the analysis and synthesis of our ideas or concepts, he finds a place for *two* connecting symbols only, + and —. These stand of course, approximately speaking, for the operations which Boole and his followers indicate by × and ÷, whilst that aggregation and exception of classes which the latter mark by the signs of addition and subtraction can find no place here. Thus the Universal Affirmative, All S is A, is written S = A + M, indicating that the subject concept S is composed of the predicate concept A, together with an unknown number of other attributes marked by M. Similarly the Universal Negative, No S is A, is written S = — A + M, indicating that the predicate concept A is to be removed or omitted in order to compose the subject.

"So far there is nothing peculiar ; similar forms to these had been employed or proposed by Leibnitz and by Lambert. (the logical works of Lambert being the instigating cause of Castillon's paper). Where he shows his originality is in facing the consequences of this mode of interpretation. For instance, most logicians are familiar with the fact that, whilst an intensive interpretation answers well enough with analytical judgments, it is at least difficult to fit it in with synthetic accidental judgments. Castillon boldly faces the difficulty by the declaration that "naturellement tout jugement est nécessaire ou apodictique. . . Notre algorithmique semble également le prouver par la simple inspection : S = A + M, S = — A + M indique tout uniment, que penser S, c'est penser M avec ou sans A". A very convenient simplification certainly. So with the same difficulty in the case of particular propositions. Castillon rejects some of these as "illusoires," the only ones which he regards as "jugements particuliers réels" being those which are derived or derivable, by conversion, from universals. "Tout jugement affirmatif particulier est donc au fond, et précisément parlant, un jugement universel, dans lequel l'attribut (le concept le plus simple, le concept abstrait ou composant), a été mis à la place du sujet (à la place du concept plus composé). . . . Indiquant donc le jugement affirmatif universel par S = A + M, le particulier sera A = S — M, suffisamment distingué du jugement négatif S = — A + M, duquel il est déjà distingué par les places qu'occupent S et M." I was personally interested in these conclusions myself, as having already suggested that they seemed the only ones which were rigidly consistent, though I could not find that they had been expressly adopted by any writer on logic."

Mr. Alfred Barratt, author of *Physical Ethics*, and a valued contributor to this journal, died on the 18th of May, after a short illness, in his 37th year. He had been appointed Secretary to the Oxford University Commission last autumn, and threw himself into the work with characteristic ardour. The strain of finishing the draft Report of the Commission, in the last days of April, proved too much for his strength, impaired as this may have been by excessive study in his earlier years. On the 1st of May, paralytic symptoms declared themselves, and in little more than a fortnight the end came. Mr. Barratt was born at Heald Grove near Manchester on the 12th of July, 1844 ; his father being of a Cheshire family and a solicitor by profession. He displayed extraordinary precocity as a boy. Before he was fourteen he could read Hebrew, and he had also picked up from a teacher at his first school some knowledge of Arabic and

Persian. Later on, besides being a most accomplished classical scholar, he had four modern languages at his command—German, French, Italian and Spanish. He was educated at Rugby before passing, at the age of 18, to Balliol College, Oxford. At the University, his career was of unexampled brilliancy. Elected Balliol Scholar in his first term, he gained a double First at Moderations and at the end passed out First in no less than three Schools—*Literae Humaniores*, Mathematics, and Law and History. He was afterwards elected Fellow of Brasenose, and obtained as his final academic distinction the Eldon Law Scholarship in 1870. In 1871 he was called to the bar as a member of Lincoln's Inn, and thenceforward practised as an equity draftsman and conveyancer, also in the Chancery Court of the Duchy of Lancaster. It was earlier, in 1869, that he produced his Essay on *Physical Ethics or the Science of Action;* but professional pursuits did not divert his interest from philosophy, as the readers of MIND know. His articles on "The 'Suppression' of Egoism" and "Ethics and Politics," with his Note on "Ethics and Psychogony," in Nos. VI., VIII., and X. respectively, showed him eager and able to maintain his early positions in face of newer thought; and he has besides left behind him a considerable quantity of philosophical writing in a more or less unfinished state. His *Physical Ethics* was, upon any showing, no common piece of work to come from a young man of twenty-five just emerging from the University; and it has not failed to leave a mark on the thought of the time. Even more remarkable than the knowledge and intellectual acuteness are the fearless logic and honesty of purpose which it everywhere displays. With Mr. Barratt's varied intellectual gifts and acquisitions was joined a strong love of art, and he had a character of singular charm. Many warmly attached friends mourn his untimely fate. He leaves a young wife and a little daughter.

The death has also to be recorded of M. E. Littré, which took place on the 2nd of June. He was born at Paris, on the 1st February, 1801. The services he rendered to Comte personally are well known. Nobody of the same distinction gave so complete adhesion as he to the ideas of Comte as far as contained in the *Cours de Philosophie Positive.* In this relation, he published a second edition of the *Cours* in 1864, and also in the same year wrote his admirable work of biography and exposition, *Auguste Comte et la Philosophie Positive.* He has taken part from the first in the direction of the bi-monthly periodical *La Philosophie Positive*, now in its thirteenth year (2nd series), and written constantly, upon the most varied topics, in its pages. His *Dictionnaire de la Langue Française* (1863-77)—a work in which he has equalled, if not surpasssd, the labours of any other single man—may also be set down as a philosophical achievement.

It is proposed in the United States to celebrate the centenary of Kant's *Kritik der reinen Vernunft* by a philosophical Congress, to be held in the first week of August at Concord, Mass., when a number

of papers bearing on Kant's philosophy will be read and discussed. In England the appearance of the great book will be commemorated by the publication of a new translation. It will be the first English translation of the original text (Riga, 1781); the changes and additions of the later editions being given in the form of supplements. The translation has been entrusted to Prof. Max Müller, and there will be a historical Introduction by Prof. Noiré. Messrs. Macmillan will be the publishers.

Herr W. Schlötel, of Strasburg, has written to us to protest, as a German, against what he considers to be an unwarrantable impeachment by a German of Professor Jevons's credit for originality. Professor Lotze, in the criticism on Boole, which he has incorporated with the second edition of his *Logik* (see above, p. 446), after solving one of Boole's problems by a method similar to that of Prof. Jevons's Abecedarium, goes on to remark that the method did not need to be discovered by Prof. Jevons, but lay to hand in the traditional rules for classification. Herr Schlötel indignantly asks, in words which he has addressed also to the *Vierteljahrsschrift für Wiss. Philosophie*, V. 2, when did anybody before Prof. Jevons in 1870 work out and publish the method of the Abecedarium and its application to syllogistic reasoning? To this question it may be replied that a similar method is plainly set forth in Christian August Semler's *Versuch über die combinatorische Methode*, published at Dresden in 1811, as noted by Mr. Venn at p. 351 of his *Symbolic Logic*. But whether Prof. Lotze had Semler in view does not appear; and, in any case, Prof. Jevons's claim to originality is, of course, unaffected.

Under the title of *Rassegna Critica di Opere Filosofiche, Scientifiche e Letterarie*, there has been founded at Naples, from the beginning of this year, a new bi-monthly periodical, which, to judge by the first two numbers, promises to be very vigorously conducted. It is under the direction of Professor Andrea Angiulli, and is designed to keep Italian readers abreast of the general intellectual movement of Europe. English philosophical authors, who will send their works to Professor Angiulli (82 Via Nuova Capodimonte, Naples), may rely on having them carefully reviewed.

Professor Lotze, who for so many years has lent distinction to the University of Göttingen, has accepted the Chair of Philosophy in Berlin, vacated by the death of the late Professor Harms.

M. Renouvier has given in *La Critique Philosophique*, X. 11-17, a translation of Mr. Shadworth Hodgson's criticism on his *Logic* in MIND XXI., appending replies and new elucidations in foot-notes; and will proceed to do the same by the article on his *Psychology* in MIND XXII. He warmly acknowledges the merit of Mr. Hodgson's exposition and criticism.

A committee has been formed for the purpose of erecting a monument of Berkeley in his cathedral of Cloyne. Thus far it is proposed "to remove the present organ screen, which is architecturally a great disfigurement to the building, and to substitute one of a distinctly monumental character, with a statue of the Bishop as the prominent feature". The movement is already supported by many influential names, and Professor Fraser represents philosophy on the committee. The following are honorary secretaries, any of whom will be happy to receive subscriptions in aid of the memorial :—Rev. T. Moore, LL.D., Precentor of Cloyne, Middelton College, Co. Cork ; R. Caulfield, LL.D., F.S.A., Librarian, Queen's College, Cork ; R. Bagwell, M.A., Innislonagh, Clonmel ; Rev. H. Kingsmill Moore, M.A., Church Place, Fermoy, Co. Cork.

We learn, with deep regret, as we go to press, the death of Mr. John Ferguson McLennan, the accomplished author of *Primitive Marriage* (1865), and *Studies in Ancient History* (including reprint of *Primitive Marriage*, 1876). He died on the 16th of June, at Hayescommon, Kent. Of late years, he has resided mostly at Algiers, for his health.

The Journal of Speculative Philosophy. Vol. XIV., No. 4. J. H. Stirling—Criticism of Kant's main Principles. J. Watson—Kant's Principles of Judgment. H. K. Jones—Philosophic Outlines. Notes and Discussions (G. S. Bower—The Philosophical Element in Shelley).

Revue Philosophique. VIme Année, No. 4. A. Fouillée—Critique de la morale de Kant (i.). J. Delboeuf—Le dernier livre de G. H. Lewes (fin). H. Spencer—Les chefs politiques. Analyses et Comptes-rendus. Rev. des Périod. No. 5. J. Darmesteter—Les cosmogonies aryennes. T. V. Charpentier—Philosophes contemporains : M. Cournot. G. Le Bon —Problèmes anthropologiques : (i.) La question des criminels. Ch. Richet —La mémoire élémentaire. Analyses et Comptes-rendus (McCosh, *The Emotions*, &c.). Notices bibliographiques. Correspondance (P. Tannery, E. Evellin—Sur l'infini mathématique). No. 6. G. Guéroult—Du rôle du mouvement dans les émotions esthétiques. A. Fouillée—Critique de la morale de Kant (ii.). H. Spencer—Des gouvernements composés. A. Naville—L'amour propre: Étude psychologique. Analyses. Rev. des Périod.

La Critique Philosophique. Xme Année, Nos. 7-20. F. Pillon—Les vues générales de M. Huxley sur la philosophie des sciences et sur la philosophie biologique (7). C. Renouvier—Politique et socialisme : La question du progrès (viii.) Condorcet (8); (ix.) Les espérances sociales de Condorcet (10); Une thèse sur l'infini (17); La doctrine de M. Evellin sur l'objectivité des idées géométriques (18). A. Penjon—Une leçon sur l'association des idées (9). J. Milsand—La science et ses droits (15, 18, 20).

La Filosofia delle Scuole Italiane. Vol. XXII. Disp. 3. F. Bertinaria—Il problema critico esaminato dalla Filosofia trascendente. P. D'Ercole—Le idee cosmologiche positive di R. Ardigò. L. Ferri—Il

Positivismo e la Metafisica. Bibliografia, &c. Vol. XXIII. Disp. 1. T. Mamiani—Intorno alla Sintesi ultima del Sapere e dell' Essere, lettera al prof. Bertinaria. P. D'Ercole—*La morale dei Positivesti* di R. Ardigò. T. Ronconi—Dell' Induzione Aristotelica e Baconiana. L. Ferri—Due parole alla *Civiltà Cattolica.* Bibliografia, &c. Disp. 2. F. Bonatelli—Filosofia della Storia : La Storia come fattore della coltura umana. G. Jandelli —Sociologia : Il precursore di Malthus. Bibliografia. P. d'Ercole—Sulle Idee, risposta al Prof. Ferri.

Zeitschrift für Philosophie, &c. Bd. LXXVIII., Heft 2. E. Pfleiderer —Kantischer Kritizismus u. Englische Philosophie (Schluss). J. L. A. Koch—Ueber das Gedächtniss ; mit Bemerkungen zu dessen Pathologie. E. Westerburg—Schopenhauer's Kritik der Kantischen Kategorienlehre (ii.). Recensionen (R. Adamson, *Kant's Philosophie;* A. Bain, *Erziehung als Wissenschaft*, &c.). Bibliographie.

Vierteljahrsschrift für Wissenschaftliche Philosophie. Bd. V., Heft. 2. E. Laas—Vergeltung u. Zurechnung (i.). F. Tönnies—Anmerkungen über die Philosophie des Hobbes (Schluss). E. Kraefelin—Ueber Trugwahrnehmungen (i.). A. v. Leclair—Kritischer Idealismus u. Positivismus : Eine Entgegnung. H. Vaihnger—Erwiderung. Anzeigen. Selbstanzeigen, &c.

Zeitschrift für Völkerpsychologie u. Sprachwissenschaft. Bd. XIII., Heft 1, 2. G. H. Müller—Ueber den Accusativ u. sein Verhältniss zu den übrigen Casus : Ein Beitrag zur indogermanischen Casuslehre. F. Misteli—Ueber Analogiebildungen insbesondere im Ugrischen. Beurtheilungen.

Philosophische Monatshefte. Bd. XVII., Heft 1, 2. Von Kirchmann—Ueber Plato's *Parmenides.* Th. Lipps—Die Aufgabe der Erkenntnisstheorie u. die Wundt'sche Logik (ii.) Recensionen u. Anziegen. Literaturbericht. Controverse zwischen Prof. Michelet u. Prof. Weis. Bibliographie, &c. Heft 3. J. Volkelt—Ueber die logischen Schwierigkeiten in der einfachsten Form der Begriffsbildung. Recensionen. Literaturbericht. Bibliographie, &c. Heft 4, 5. C. Schaarschmidt—Lessing u. Kant : Ein kleines Gedenkblatt. Th. Lipps—Die Aufgabe der Erkenntnisstheorie, &c. (iii.). E. v. Hartmann—Bahnsen's *Realdialektik.* Recensionen. Literaturbericht. Bibliographie, &c.

Other Books, &c., received :—A. Macfarlane, *Algebra of Relationship*, II, (Reprint from *Proc. Roy. Soc. Edinb.)*, pp. 8. E. R. Conder, *The Basis of Faith:* A Critical Survey of the Grounds of Christian Theism, 2nd Ed. revised, London (Hodder and Stoughton), pp. 436. St. Bernard, *On the Love of God*, transl. by M. C. and Coventry Patmore, London (Kegan Paul), pp. 151. Anonymous, *The Deluge:* a Poem, London (Stock), pp. 148. Anon., *The Student's Dream*, Chicago (Jansen & McLurg), pp. 97. G. Renard, *L'Homme est-il libre?* ("Bibliothèque Utile"), Paris (G. Baillière), pp. 186. P. Siciliani, *La Scienza nell' Educazione*, Sec. Ed. rifusa, &c., Bologna (Zanichelli), pp. 376. C. K. J. v. Bunsen, *Allgemeines evangelisches Gesang- u. Gebetbuch*, ed. by A. Fischer, Gotha (Perthes), pp. 753. O. Schmitz-Dumont, *Die Einheit der Naturkräfte*, Berlin (Duncker), pp. 168. J. Duboc, *Der Optimismus als Weltanschauung u. seine religiös-ethische Bedeutung*, Bonn (Strauss), pp. 399.

No. 24.] [October, 1881.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—SIGHT AND SMELL IN VERTEBRATES.

SIGHT and smell stand to one another to some extent in rough inverse ratio. Where sight is the main intellectual sense, smell is generally deficient or unimportant; where smell is the main intellectual sense, sight is generally deficient or unimportant. The highest intellectual development is necessarily based upon sight. Hence, on the whole, as we mount in the vertebrate scale, we find sight gaining in relative importance, and smell losing in relative importance, among the most developed members of the three great groups. The lower divisions of fishes have smell for their chief sense; the teleosteans have sight. The reptiles have smell; the birds, sight. The lower mammals have smell; the Primates, sight. With the highest animal, man, sight has become the immensely preponderating intellectual sense, while smell survives with difficulty as an almost functionless relic. These are the chief propositions which the present paper sets out, if possible, to demonstrate. It is sometimes well at the beginning of a long argument to state the general conclusions towards which that argument is tending: and they are here put down by anticipation so as to save the reader the trouble of blindly following the course of the reasoning without knowing at first sight whither it is making.

The most rudimentary known vertebrate, *Amphioxus*, has a simple central nervous organ, consisting of a spinal chord,

tapering at both ends alike, without any cerebral expansion, or anything approaching a brain. But its two anterior pairs of nerves, passing to the membranous parts about the mouth, supply with filaments a ciliated depression near the snout of the fish, which is considered to be an olfactory organ, and also two pigment spots, which are regarded as the earliest form of eyes. Both sight and smell must here be very slightly developed; but it seems probable that the olfactory organ is the more useful of the two, as the eyes can only be sensitive to the mere presence or absence of light. The fish lives on shallow coasts, and buries itself in the sand on the slightest alarm, so that it has little need of sight; but it may possibly be led to its food by smell.

The lampreys and hag-fish are the lowest vertebrates possessing a brain. The common lamprey has a pair of eyes in its adult stage; but they are not highly developed; and as it passes its life in clinging by suction to other fishes, on which it slowly feeds, it cannot have much need for organs of sight. The optic nerve is small, and the connected central organs are unimportant. In the hag-fishes, which live parasitically inside the body of other fishes, the eyes are quite useless, and are entirely covered by the skin and muscles. Of course they are wholly rudimentary, and the connected central organs are probably functionless. It is quite otherwise, however, with the organ of smell in both groups. The olfactory surface is large and well-marked: the olfactory nerve is immensely bigger than the optic: and the olfactory lobes form the most important portion of the brain, especially in the freer and more locomotive lampreys. Hence we may fairly conclude that these animals are guided almost entirely by smell, and very little by sight, a conclusion which seems perfectly natural when we take into consideration their carnivorous habits. For I may as well observe here by anticipation, what we shall find to be true throughout, that in carnivores, apparently, the sense of smell almost universally takes the lead of all other senses. As living animals leave a trail behind them, and as that trail must often be perceptible when the animal itself is out of sight, it is clear at once why this should be so. Moreover, even in the cases of carnivores which feed on carrion, like the vulture and the hyæna, one can easily see that the smell of decomposing flesh must frequently prove highly useful as an indicator of its whereabouts. Anybody who has seen dogs pointing, or watched ants tracking a scent can have no difficulty in seeing why the olfactory sense must almost necessarily be of prime importance to hunting animals.

There is another fact in the anatomy of the cyclostome fishes, however, which is still more pregnant with deep and important

meaning. The olfactory lobes not only form the largest single portion of the brain, but they are also very intimately connected with the cerebral hemispheres themselves. It is usual to say that the lobes form a pair of anterior swellings of the hemispheres, and morphologically speaking, this is correct enough. But if we look at the subject physiologically and genetically, we must decide rather that the hemispheres themselves in these fishes are appendages and outgrowths of the olfactory lobes. Being immediately connected with the lobes, the hemispheres must have taken their origin from them, and must be occupied in co-ordinating impressions brought by them. It is difficult to see how one can resist this conclusion, because in all the lower vertebrates the union of the lobes with the hemispheres is most intimate, while the other nerves and central organs are relatively disconnected. Even in the highest vertebrates, the olfactory lobes still keep up a memory of this primitive arrangement, being always a portion of the body of the hemispheres; whereas the optic lobes (or corpora quadrigemina) remain comparatively distinct. Hence, it would seem, we must conclude that smell is the mother-sense of the hemispheres: and their diversion to functions mainly connected with the co-ordination of impressions derived from sight must be a later and almost, so to speak, a revolutionary change. But this diversion has probably occurred in far fewer animals than one is at first inclined to suspect: for it is most likely, as we shall see hereafter, that most mammals even, and especially the carnivora and ruminants, are mainly guided by smell, and only to a less degree by sight. Perhaps it is among the Primates alone in the mammalian series that sight has decidedly assumed the leading place, and that the hemispheres have taken chiefly to co-ordinating impressions derived from that source: though we shall see that in the teleosteous fishes sight is also first, but wholly, connected with the optic lobes; while in birds it likewise ranks highest, and has close relations with the hemispheres.

The ganoid fishes have moderately well-developed eyes, and the optic nerves, instead of going straight to their own side, as in the cyclostomes, are welded into a chiasma, which marks a distinct advance in development. But the nerves themselves and the optic lobes are still small, and quite separate from the hemispheres. On the other hand, the olfactory organ is double, instead of being single, as in the cyclostomes; the olfactory nerves are very large; and the olfactory lobes are big and important structures. The hemispheres are less intimately connected with the lobes than in the lampreys; but they seem by the mode of their union to have assumed rather the functions of slightly higher and more independent co-ordinating organs.

Most ganoids are carnivorous. In their case too, it is quite obvious that smell remains by far the most leading sense.

Among the *Dipnoi* (*Lepidosiren* and its allies), which are a divergent sub-order of ganoids, interesting as forming the best extant connecting link between the fishes and the amphibians, the same general peculiarities are observable. The hemispheres here constitute the largest part of the brain, and are coalescent; while the olfactory lobes are large and closely united to them. The *Dipnoi* are the only fishes in which the organ of smell is in any connexion with the respiratory function, part of the water which they breathe passing through the nasal sac. This is a peculiarity which is found in all the higher vertebrates—presumably descendants of an allied form. On the other hand, the eyes are very small, as are also the optic lobes in a most remarkable degree. The *Dipnoi* are river-fish and mud-haunters. They live in tropical streams, liable to dry up in the rainless season (owing to which fact their swim-bladder has been modified into lungs, supplementary to the gills); and they are carnivores, doubtless seeking their prey by scent in the turbid waters which they frequent. *Ceratodus*, however, is said to be a vegetable feeder.

Among other fishes, which stand quite out of the direct line of descent for the higher vertebrates, the Chondropterygians (sharks and rays) are certainly the most intelligent and highly developed. Apparently, they both see and smell well. The eyes are fairly good, and have a most distinct expression, wanting in all other fish. The optic nerve is large, and the optic lobes are of a moderate size. But the olfactory nerve is very big, while the olfactory lobes are immense, and are closely joined to the very important coalescent hemispheres. The lobes are also prolonged into pedicles which dilate into great ganglionic masses where they come into contact with the olfactory sacs. Moreover, these fishes have movable flaps to the nostrils, supported by cartilages and worked by muscles, whence Dr. Günther concludes that they are able to sniff actively, not merely to smell passively. Of course everybody knows that the sharks are very active, rapid, and voracious carnivores. They scent their prey from a distance, and swim up to it with extreme agility. As Lacepède justly says, smell "may be called their real eye". Dr. Günther believes that the strength of the sense of smell in fishes generally "depends mainly on the degree of development indicated by the number and extent of the interior folds of the pituitary membrane"; and these folds in sharks amount to twelve or thirteen square feet. The sharks are remarkably analogous to wolves and jackals. The rays, on the other hand, are bottom fish, imitatively coloured, and lie in

wait for their prey on the shoals. Their mammalian analogues are the tigers and wolverines. It is obvious that smell must be a sense of immense importance to both families.

All these orders of fishes agree, apparently, in the fact that with them smell decidedly preponderates over sight as a guiding sense. The Teleosteans, on the contrary, which form the vast mass of existing fishes, besides including almost all the best known species—such as the perches, mullets, breams, mackerels, gurnards, salmon, trout, cod, flat-fish, eels, &c.—apparently trust as a rule far more to sight than to smell. The eyes are usually much larger in proportion to the whole size of the animal than in the other orders: a familiar instance of the difference being supplied by the contrast between those of a salmon and of a dog-fish. Moreover, the large optic nerves are connected with a pair of very big optic lobes, which constitute the principal part of the brain, being generally far larger than the hemispheres and the olfactory lobes put together. The Teleosteans have been decidedly the most successful marine race in the struggle for life, and they are now fast living down the once dominant ganoids and perhaps even the still dominant chondropterygians: it is possible, therefore, that they may mark in part the triumph of sight over smell in the marine world. On the other hand, it must be remembered that they have many other structural advantages, and that when they are carnivorous they are so generally in quite another sense than the sharks and their allies, so that eyes are naturally more important to them than organs of scent. Most of them live by browsing upon seaweeds, mollusks, crustaceans, insects, coral polypes, or other sluggish invertebrates, instead of pursuing fast-swimming fish. The sharks are the true higher carnivores of the sea: the Teleosteans are the herbivores, rodents, and insectivores. It would be interesting to know whether the occasional rapid and highly carnivorous Teleosteans—such as the tunny, or the ravenous serrasalmonoids of South America in which smell is certainly well developed—show any difference from the rest of their kind in the relative magnitude of the olfactory lobes and the hemispheres, proportionally to the optic lobes.

A few more facts about sight in the Teleosteans are worth noting in this connexion. In the first place, they are the only order of fishes in which I have been able to hear of any distinct proofs of colour-perception. It is remarkable, too, that they include all those instances in which the males display brilliant colouring, attributed by Mr. Darwin to sexual selection. These colours generally co-exist with very excitable tempers (as is also the case with highly ornamented birds and mammals): and in one instance at least, that of *Betta pugnax*, the metallic colours

are directly excited by the appearance of a rival, or even of the fish's own reflection in a mirror. A large proportion of the most exquisitely coloured species—in fact almost all of them—feed upon the bright-hued polypes and other organisms of the tropical coral reefs. All these points go to prove the possession of a relatively high development of vision. In some few Teleosteans, sight undoubtedly attains a very high degree of evolution. This is especially the case with *Periophthalmus*, which leaves the water and hunts crustaceans or other small animals on mud-flats at ebb-tide. Its eyes, which are very movable and can be thrust out of their sockets, "probably possess as highly developed vision as those of any amphibian". It sees in the air as well as in the water. *Anableps*, which swims half above the surface, has its eye divided horizontally into two portions, one adapted for vision in air, the other in water. From these and like highly developed eyes, mostly belonging to littoral or pelagic forms, we have every gradation of degradation till we reach the absolutely blind fishes of the caves. Thus species like the angler or fishing frog, which lead a sluggish life on the bottom, lying in wait for their prey, have very small eyes: and in most of the deep-sea species these eyes have become wholly rudimentary (or as we ought rather to say, obsolescent). There are, however, some remarkable deep-sea forms with very large and peculiar eyes, adapted as Dr. Günther supposes to the perception of phosphorescent light only: though I confess that Dr. Gwyn Jeffreys's doubts as to the correctness of this interpretation seem to me well founded, especially when one considers the bright and definite coloration of many abysmal animals. The actually blind Teleosteans seem usually to make up for the loss of sight by specially acute hearing, as well as by peculiar tactile or olfactory organs. Thus *Amblyopsis spelæus*, from the Mammoth Cave in Kentucky, hears with unusual acuteness, and has a number of tactile papillæ arranged in ridges on the head, and provided with nervous filaments from the fifth pair. *Lucifuga*, from the caves of Cuba, has the barbels replaced by numerous minute ciliæ or tubercles. *Aphyonus*, a blind deep-sea species of the New Guinea coast, has the head covered with a system of wide muciferous channels. That sight in most Teleosteans is fairly well developed may be inferred from two facts: first, the care with which artificial flies and other baits must be imitated in order to deceive them: secondly, the frequency of protective colouring and design in many fishes and in other marine animals, which can only be intended for the eyes of fishes themselves; these protective devices being sometimes (as in the case of the *Phyllopteryx eques*, a pipe-fish which absurdly mimics a piece of sea-weed) extremely minute and

highly developed. Smell, however, helps them out largely. Fly-fishers find that trout which have at first refused the fly will often rise to it when it is smeared with a piece of cut earth-worm.

The main point in connexion with Fishes as a whole is this. The brain in them consists of three more or less disconnected parts. Of these parts, the hemispheres, which grow to be the main portion in the highest vertebrates, are really mere appendages of the olfactory nerve and lobes. Throughout the whole class, the olfactory nerves "always retain their intimate relation to the hemispheres, the ventricles of which are not rarely continued into the tubercle or even pedicle of the nerves". So that in fishes generally the hemispheres remain, in all probability, essentially the higher co-ordinating organs in connexion with the sense of smell. Of course the smell-impressions are duly co-ordinated with sight-impressions, and both with motions; and commissures exist between the three main portions of the brain—the hemispheres (including the olfactory lobes), the optic lobes, and the cerebellum—but this does not militate against the general conclusion that the hemispheres themselves still have their special subject-matter found for them exclusively by the sense of smell. They are in fact specialised and highly evolved outgrowths of the primitive chord, which have been developed in close relation to the development of an advanced olfactory organ. The fundamental importance of this conclusion must be my justification for allotting so much space to the lowest and least familiar division of vertebrates.

Concerning the Amphibia little need be said. On the whole, their peculiarities are much like those of the *Dipnoi*, with which they are so closely connected. Both the optic lobes and olfactory ganglia, however, are relatively smaller, while the hemispheres are relatively larger. The eyes are better developed than in most fishes, and apparently sight plays a very large part in the amphibian consciousness. How far signs of acute smell have or have not been noticed in them I am unable to say.

When we pass on from the Ichthyopsida to the Sauropsida, we meet with facts of great importance. Among the reptiles, smell certainly appears to be the leading sense, though sight is also far more perfect than in the lower vertebrates. In the snakes, especially, the membrane of the nose is very expanded, the olfactory nerve is extremely large, and the hemispheres form the mass of the brain, while the optic lobes are comparatively small. In many snakes and lizards, indeed, the eyes are rudimentary. But a more interesting fact about the reptilian development is this, that among reptiles there apparently begins

a closer connexion between the various divisions of the brain—an integration, as Mr. Herbert Spencer calls it—doubtless answering to a more complete co-ordination of the sense-impressions yielded by the different senses. There appear a certain number of intermediate and connecting bodies, in a nascent form, probably foreshadowing the corpus striatum and the thalamus of higher animals. Now what, from our present point of view, is the import of these new bodies and of the large cerebral peduncles connecting the hemispheres with the optic lobes and the medulla oblongata? Do they not point to the growth of a new and higher order of co-ordination, which these large connecting organs subserve, by bringing sights into closer relation with smells, and by transmitting the results of the co-ordinating action exerted upon both to the motor nerves? In the teleosteous fishes, we saw, apparently, that sight took the lead over smell: but the effect of this substitution of one sense in the place of another was not to produce a new order of co-ordination; it was merely (we judged) to increase the size of the optic lobes relatively to the hemispheres. In that case, apparently, the optic lobes really seemed to answer in function (though not of course in their homologies) to the cerebral hemispheres in man: while the hemispheres themselves seemed to sink into mere central organs of the secondary sense of smell. But in the reptiles, if the present view has any truth in it, something other than this has happened. Sight and smell are co-ordinated in the reptilian system by a single supreme central organ. Had such a change been accomplished in a race of animals in which sight was the leading sense, it seems to me we might naturally expect the original central organ of sight,—the optic lobes—to grow into the main central organ for the whole organism. If men and other mammals, for example, had been developed directly from the teleosteous fishes, then we might expect that it would be the mid-brain which should grow out and overshadow the two other parts, instead of its being the fore-brain, as we know to be actually the case. But the birds and mammals are descended, on the contrary, from fishes more or less like the *Dipnoi*, from Amphibians, and from early quasi-reptilian forms. These creatures, I believe, all have smell, not sight, for their leading sense. Hence it seems natural that in their case the central organ of smell should become the main and supreme nerve-centre for the whole body, and that sight-impressions should be referred to it, so to speak, for consideration and decision, by comparison with the scent-indications, before the final message of the supreme centre is sent down for execution to the muscles. Thus, I venture to fancy, the fore-brain, originally a mere big special ganglion for

the elaboration of smell-impressions, has grown into the main directing agency of the whole mechanism: and the higher functions connected with the co-ordination of sight-impressions have been transferred to it from the optic lobes, which remain (as corpora quadrigemina) in the higher vertebrates mere immediate receivers rather than final co-ordinators of the sense-messages. As sight gradually replaced smell, in the hierarchy of the senses, the connecting bodies, and especially perhaps the thalami, would become more and more important, while the hemispheres proper would be given over more and more to comparatively abstract co-ordinations, and would have less and less direct reference to the sense of smell, till at last in civilised man that sense would dwindle away to a mere emotional relic, while the memory of its once dominant position would be kept up only by the peculiar connexion of the olfactory nerves with the hemispheres themselves. The growth of the corpus striatum, which is the part of the hemispheres in closest connexion with the optic centres, would be the first measure of the change. This is a bold theory, perhaps; yet I venture to suggest it in a tentative manner, and with all due deference, to those who are better able to form an opinion upon its probability than myself.

Within the ranks of the Sauropsida themselves, such a change may actually have taken place. Birds seem to be comparatively little or not at all guided by smell, while their sense of sight is remarkably acute. The eye is wonderfully perfect, and the optic nerve is the biggest of all the cranial nerves. "In a large majority of them," says Dr. Bastian, "the power of vision seems far to transcend that of man or other animals, both in regard to range and keenness of discrimination." A hawk is said to discern a lark upon a clod of earth coloured almost exactly like itself at twenty times the distance at which it is perceptible to a man or a dog. A kite, having soared out of human sight, can still distinguish and pounce upon lizards and field-mice on the ground. The distance at which vultures and eagles can spy out their prey is almost incredible. In fact, we are quite justified in asserting that "sight is unquestionably the dominating sense of birds". It is interesting in this connexion to note that birds are the class of vertebrates which exhibit the strongest appreciation for colour, of which Mr. Darwin has collected several cases (*Descent of Man*, vol. ii., p. 110), while the bower-birds are the only animals which gather and keep coloured objects for their own sakes. I have tried in my little book on *The Colour-Sense* to show that this taste is highly developed in all birds: and it is certain that no other group of animals, except the very similarly circumstanced butterflies, display such

brilliant hues, presumably due to sexual selection, in their own integuments. The parallelism between such birds as the humming-birds, sun-birds, parrots, or lories on the one hand, and the butterflies or rose-beetles on the other, is certainly extraordinary. Both groups have developed organs of flight; both seem to be mainly guided by sight; both have highly evolved organs of vision; both have been largely instrumental in the production of coloured objects—fruits and flowers—in the vegetable world; both are apt to be themselves decked in very bright hues; and both display an unusual amount of secondary sexual differences. These emotional peculiarities connected with sight appear to me worth some consideration in estimating its importance in the mental world of birds.

The olfactory sense, on the other hand, seems to be very slightly developed, or almost wholly wanting, in the majority of birds. The pituitary membrane is but little expanded, and the nerves small. Even the keen sense of smell with which vultures were once credited seems to be at least doubtful; and Mr. Darwin has shown that the facts are far better explained by their great acuteness of vision. However, it is probable that birds of prey have at least much more acute sensations of smell than their grain-eating congeners. A vulture and a turkey weigh about the same weight: but the olfactory nerve in the vulture has five times the thickness of the same nerve in the turkey. I am not aware that any bird (except perhaps *Anas moschata*) is provided with a sexual allurement in the shape of a scent-gland; and this is the more noteworthy by the side of the frequency with which we find highly developed ornamental adjuncts and power of song, as well as when we compare them in this respect with mammals or insects. Birds never seem to sniff at anything: they dart at once upon objects, apparently guided by sight alone.[1] The olfactory lobes are comparatively small in birds, and the olfactory nerve, instead of being immensely the biggest, as in sharks and snakes, is relatively a mere shrivelled relic. The optic lobes are of considerable size; but the hemispheres distinctly form by far the largest part of the whole brain. However, they are probably here mainly engaged in co-ordinating the results of the dominant sense of sight, which must really make up the vastly largest share of the avian consciousness. The contrast between the brain of a lizard and the brain of a turkey is most interesting in this respect. In the lizard, the large olfactory lobes obviously

[1] It would be interesting to know whether any flowers specially adapted for fertilisation by humming-birds or brush-tongued lories possess a perfume.

form the main *raison d'être* of the hemispheres: in the turkey, their very dwindled representatives seem mere functionless rudiments of once useful structures—appendages of the hemispheres rather than their main part. The connecting mechanism of the crura cerebri is now an important part of the brain; and integration has reached a very high point. The hemispheres seem to depend mainly for their raw material upon the thalami and the corpus striatum. They appear, in short, to be thrown back from the olfactory upon the optic regions. Yet we may safely infer that birds are probably descended from earlier ancestors in which smell was still the leading sense; because the affinities of the earliest birds are with carnivorous reptiles—pterodactyls and deinosaurians. The apteryx, that curious wingless New Zealand bird, which exhibits so many singular and early traits, differs from all other birds in the position of its nostrils at the end of the bill, in the large expansion of its pituitary membrane, and in the quasi-mammalian arrangement of its nasal nerves in their passage through the skull. "These peculiarities indicate greater acuteness in the sense of smell; and this is thought to be associated with its habit of probing among loose earth to hunt for worms by scent." *Archæopteryx*, the intermediate reptili-avian form from the Solenhofen slate—a bird with a long lizard-like tail and single pairs of quills on each caudal vertebra—had teeth of a carnivorous type, and therefore doubtless resembled the snakes, crocodiles, and other carnivorous reptiles in the predominance of smell over sight. Thus we can understand why in birds the hemispheres should remain the chief central organs, in spite of the comparative disuse of the olfactory sense. These original chief centres had got a start, so to speak, beforehand, and they remained the head office ever afterwards, even though the business they had to transact was mainly connected with the adopted optic functions, not with the primitive olfactory functions.

Mammals are probably descended from a quasi-reptilian animal, having amphibian affinities. In most of them, and especially in the lower orders, smell seems to remain the dominant sense-endowment. In the carnivorous marsupials,[1] which doubtless best represent the ancestral traits, "the olfactory lobes are very large and completely exposed, while the cerebral hemispheres are comparatively small and quite smooth". In fact, the hemispheres are mere out-growths from the lobes. I am inclined to think that we generally vastly underrate the importance of smell to almost all mammals except the quad-

[1] Unfortunately, I can find no serviceable particulars as to the brain and olfactory nerves of the Monotremata—Ornithorhynchus and Echidna.

rumana and the cetacea. The universal habit of sniffing the air among ruminants, the way in which the dog tries every object by smelling at it, the cautious manner in which horses scent strange persons and places, all give us familiar instances of the value of smell to mammals. With reference to this point I cannot do better than quote the following luminous passage from a letter of Prof. Croom Robertson in *Nature*, Feb. 27, 1873—which, indeed, with Sir John Lubbock's experiments upon ants, first suggested to me the train of thought which I am now endeavouring to work out.

"Our external world (whether as actually perceived or imaginatively represented) may be called a world of sights and touches, blended with and modifying each other in the most intimate way. . . . All other sensations, as of hearing, smell, and taste, come before us only discontinuously and intermittently, not being had from all things nor always from the same things. But, in a dog's experience, touch cannot possibly co-operate with sight, as it regularly does in ours. The organ of effective touch in man—touch that gets associated with vision—is, in the last resort, the hand, combining mobility and sensitiveness in the highest degree ; and the dog has no hand. Its mobile limbs are not sensitive at the extremities, and, though it has sensitive lips, these, having no such active mobility as the human hand has, are extremely limited in the scope of their apprehension. Its touch being thus defective, what is there then in the dog to play second to sight—which as leader needs support, were it only because there is not always light to see with? Smell, I cannot but think, seeing that, whilst the organ is incontestably acute, it has the great advantage over the tactile surface of the lips, of receiving impressions from things already at a distance. If we only suppose—what the facts make very likely—that the dog's smell is acute enough to have some sensation from all bodies without exception, nothing more is wanting to enable a psychologist to understand that the dog's world may be, in the main, a world of sights and smells continuous in space."

Now, after much consideration of the ideas suggested by this letter, I am inclined to think that it not only does not overstate but actually understates the real importance of smell to the dog. I am inclined to believe that in the dog, in most other carnivores, and perhaps in ruminants and rodents as well, smell does not play second to sight, but that sight plays second to smell. The dog's world, I fancy, is really primarily a world of smells continuous in space, with which sights are interblended much as touches are in our own. With us men, smell has become such a mere subsidiary sense, such a purely emotional relic, that we can hardly at first realise its probable primary intellectual importance to certain other animals. But if we take the example of the ants among invertebrates, we see that an exceptionally intelligent race of hunting animals has not only smell for its principal sense (as Sir John Lubbock has abundantly proved) but has apparently no other guiding sense worth mention. More than that, so effectual is smell to ants,

that the workers have in most cases mere rudimentary vision, and in some cases no vision at all, though they are descended from flying insects with highly developed eyes. Smell has here proved so sufficient for all the needs of a hunting creature that sight has actually been lost as a useless adjunct.[1] All the numerous impressions which must go to make up the world of so intelligent an animal as the ant appear to be supplied by the sense of smell alone. If, then, smell can prove so valuable to an invertebrate, there is no reason why it should not prove equally valuable to a vertebrate of similar habits. And the more I have watched dogs from this point of view, the more have I become convinced that smell really does form their principal sense. Let one but recall the way in which dogs go through the world sniffing on every side; the way in which they scent out their master's property or recognise him in strange clothes by the smell alone; the way in which they single out one particular trail from the thousands that must exist everywhere across fields and roads; the way in which they take stock of man, other dogs, and inanimate objects by smelling them all over; and one can hardly doubt that the olfactory sense is really the one by which mainly they track their path through life.[2] Our world is a picture, with a background of tangibility: theirs, I believe, is a series of continuous and mutually related smells, with a background of visibility. In many cases one can see that a dog pays comparatively little attention to sight, and much to smell. When the olfactory nerve is severed, dogs make extraordinary mistakes about food, and seem to lose recognition of many persons and things. Mr. Douglas Spalding found that blind kittens, three days old, exhibited an "instinctive" horror of the smell of a dog on the hands.

The cerebral hemispheres in most mammals certainly have to deal both with sights and smells; and the part played by sight in the mammalian consciousness is almost beyond a doubt far larger than the part played by it in reptiles, though not as large as in birds. But the size and importance of the olfactory lobes in the mammalian brain is very marked; and on that ground

[1] Sir John Lubbock has noted that an ant accidentally born without antennæ seemed to be quite as helpless as a blind man among ourselves: and Hauser has recently shown experimentally that the antennæ are undoubtedly organs of smell.

[2] I have tried to sum up the evidence on this point in an article on "The Dog's Universe," contributed to the *Gentleman's Magazine* for Nov., 1880. I have there contended (1) that dogs discriminate persons and things mainly by smell; (2) that they associate smells with one another and with other sensations; and (3) that they remember persons and objects mainly by smell.

alone one might be inclined to suspect that smell still continued to supply the chief raw material of intelligence. Prof. Huxley regards the insectivora as the central group of placental mammals, and therefore their brain may be considered as probably representing the primitive placentate form. It is remarkable for its low development. "The olfactory lobes are singularly large, and are wholly uncovered by the cerebral hemispheres; which on the other hand do not extend back sufficiently far to hide any part of the cerebellum. Indeed, they hardly cover the corpora quadrigemina." Here as in the marsupials we seem clearly to catch the hemispheres in their primitive condition as mere appendages or higher central organs for the correlation of smells with sights and motions. In the rabbit "the olfactory nerves are enormous, and pass by a broad smooth tract, which occupies a great space in the lateral aspect of the brain, into the natiform protuberance of the temporal lobe". (Huxley.) In this case, and others like it, the appearance of the hemispheres distinctly suggests the notion that they are still mainly mere outgrowths or central organs of the olfactory system, though of course they have large connexions with the optic region. In the pig "the olfactory nerves and tracts are hardly less conspicuous". (Huxley.) In the dog, "the olfactory lobes are very large, and expand posteriorly on the sides of the brain into a broad mass continuous with the *gyrus uncinatus*, or hippocampal lobule". (*Id.*) In all these cases, the expansion of the pituitary membrane is enormous. When we further consider the fact that no mammal has bright-coloured sexual adornments, except among the quadrumana, while many of them (musk-deer, musk-rat, beaver, &c.) have special scent-glands, and all of them seem to possess attractive odours to their own kind, the contrast between the provinces of sight and smell is further heightened. It may be noted, also, that while the very abnormal whale has absolutely no olfactory nerves or lobe, the highly carnivorous seal has a most complicated and contorted pituitary membrane, whose extraordinary development "would lead us to suppose that it hunts by scent alone". In fact, the swimming carnivora are in this respect the exact converse of the smell-less cetaceans. Altogether, when we consider these structural facts on the one hand, and the extraordinary functional exhibitions of olfactory sensibility by blood-hounds, deer, bison, camels, and horses on the other, it is difficult to resist the conviction that smell forms the leading sense-endowment of all the lower mammals. And if this be so, then it would seem that it has formed the leading sense-endowment of all the ancestors of man, up to the point at which they began to differentiate themselves as quadrumana from the lower mammals. I may add that the embryological

development of the hemispheres in all mammals clearly suggests their original dependence upon the olfactory lobes. These organs bud out most distinctly at a very early stage of the growth, and the other parts of the hemispheres only gradually rise into prominence behind them.

The bats, which are in some respects intermediate between the insectivora and the quadrumana, supply us with a useful hint as to the causes which have led to the substitution of sight for smell as the leading sense in the latter group. They fall naturally into two divisions, the frugivorous and the insectivorous. I have not been able to discover from any printed account whether there is any difference between these two divisions as regards the development of the olfactory lobes: but there is certainly a very remarkable external difference in the nose and ears. The frugivora have no special peculiarities in either organ: the insectivora—which include the blood-sucking vampyres—have "the integument of the nose developed into an appendage which is very large and leaf-like, and the tragus of the large ears is often similarly modified". Now, one can easily understand that the frugivorous bats—flying foxes and like partially diurnal species, which feed upon large fruits on trees—should depend mainly upon sight for guidance; whereas the insectivores, which hunt flies or suck the blood of mammals by night, must depend more upon other senses, such as smell and hearing. This contrast helps us to understand the peculiar position of the quadrumana.[1]

A group of dominant arboreal mammals, living upon fruits and roots, and not given to hunting, would naturally find sight a more useful guide to their actions than smell. The gleam of fruits upon the tree must be to such animals the principal object of interest. It must be to them what the scent-trail of a hare is to the dog, and what the scent-trail of a comrade is to the social ant. Such a group are the higher quadrumana: and among them it appears that sight—more particularly the colour-sense—is more highly developed than among any other animals save only birds. Indeed, the influences which mould the life and tastes of the higher monkeys must be almost identical with those which mould the life and tastes of such frugivorous birds as the parrots and the toucans—amongst which also the colour-sense seems to attain a very high degree of development.

The lower quadrumana, at least as they survive at the present

[1] A parallel case may be quoted from the insect world. Dr. Hauser notes that the plant-eating hymenoptera require less aid from the sense of smell than their carnivorous allies, the saw flies: and he finds that while the ichneumon fly has 5000 olfactory pits on each antenna, the Lyda has only 600.

day in the form of the lemurs, are nocturnal animals of varied habits, and to some extent less strictly frugivorous than the higher groups. The lemurs still retain comparatively large olfactory lobes, and relatively small and flattened cerebral hemispheres. But their eyes are also often large and well-developed. As we mount upward, however, the olfactory lobes grow smaller and smaller, and the olfactory tract in the brain becomes of less and less importance. At last, in the chimpanzee, "the olfactory nerves, or rather lobes, are, relatively, very small, and the tracts which connect them with the uncinate gyri are completely hidden by the temporal gyri". Meanwhile, the frontal and occipital lobes, which are the parts of the hemispheres apparently connected rather with sight (and the higher co-ordinating functions) than with smell, have grown out enormously, and completely overlap the olfactory tract and the cerebellum. Another peculiarity may also be noted. "In the large majority of mammals," says Prof. Flower, "the base of the olfactory lobes extends backwards to the under surface of the temporal lobes, obliterating the lower part of the fissure of Sylvius; whereas in the true apes and in man, their connexion with the cerebral hemispheres is chiefly with the anterior lobes and the bottom of the fissure itself." The functional indications are quite parallel to these structural peculiarities. The lower monkeys still smell at their food; but the higher ones do so to a much less marked extent. All monkeys show a very strong amount of attention to visible things, especially to all moving objects and to bright colours. Among the lemurs and marmosets (as among the lower mammals) there are no coloured ornamental adjuncts: but among higher monkeys we find brilliant sexual hues in the rhesus, the mandrill, and some other species. On the other hand, no monkey (so far as I know) has any scent-glands. But half-an-hour at the monkey-house of the Zoological Gardens will supply more proof of the importance of sight among the higher quadrumana than any amount of description: and as everybody has been there, I need not detail the proofs.

Of course I do not overlook the enormous importance of the hand to the higher quadrumana, and the large share it must undoubtedly have borne in the evolution of the simian and human intelligence. But the hand itself has directly aided, I believe, in the substitution of sight for smell as the dominant sense. For the hand tells one certain facts as to the exact figure of objects; which facts the eye foretells in anticipation of touch. On the other hand, smell only tells one at best certain far more general facts as to the existence and direction of an object, but not as to its shape or tactual properties. Unless I am mistaken,

Mr. Herbert Spencer somewhere says that smell is anticipatory taste, while sight is anticipatory touch. Accordingly, smell is most important to a hunting animal, without definite tactual or grasping organs,—an animal which has to track an unseen prey by its trail alone, and then eat it by tearing it with its jaws; whereas sight is most important to a frugivorous animal, with a prehensile hand—an animal which has to grasp visible coloured fruits with a special tactual organ. But the union of two such peculiar gifts—highly developed sight and highly developed grasp—in a single animal naturally leads to a very highly evolved intelligence. For these two modes of apprehension between them tell us far more about the intimate nature and relationships of bodies than the smell and taste upon which mainly dogs and horses have to rely can possibly do. Such a high intelligence as that of the Primates could hardly have been evolved on the comparatively indefinite indications of smell and taste alone.

In passing from the other Primates to man, we meet with very similar results. The sense of smell becomes with us a mere relic, and has little connexion with intellectual processes: while the sense of sight becomes the dominant and all-important source of raw material for guidance. The dwindling of the olfactory sense has probably gone on largely within the human race itself. Idiots smell at their food continually, and clearly employ scent as a means of discrimination far more habitually than normally developed individuals. The lower races of mankind also seem to discriminate persons by scent, and certainly use olfactory sensations as practical guides to an extent quite unknown amongst the higher races. In ourselves, the sense of smell has become almost purely emotional: it is a source of pleasure or discomfort, but serves very little as a guide to conduct. The olfactory lobes have shrivelled away almost to nothing. Probably too, the connexions between the olfactory nerves and lobes, and the main portions of the cerebral hemispheres, are very indefinite and weak in civilised man: the nerves have little to do with the main work of the brain. "In the monkey and in man," says Prof. Ferrier, "the direct connexion between the outer root of the comparatively small olfactory tract and the subiculum [tip of the temporal lobe] is not so evident, though in the monkey it is more apparent than in man." Perhaps this last vague connexion between the olfactory sense-organs and the higher co-ordinating structures of the brain may account for those curious and vivid associations aroused in certain minds by perfumes or passing odours—though I confess I am rather inclined to be sceptical as to the real existence of such associations.

On the other hand, the importance of sight to man is obviously enormous. The vast mass of our mental universe is made up of sights. Visible symbols are the language of our thought. "It is only in the ape," says Geiger, in a striking passage to which I owe some acknowledgment, "that the sense of sight and the interest in the visible world assumes more importance [than in the lower mammalia.] We see mankind at a low stage of civilisation still availing themselves of the faculty of scent, and examining objects by its means, while we are wholly deficient in such a faculty. At length sight attains higher and higher dominion, and the interest concentrated upon it seems therefore to be the real privilege of man." It might not be too much to say that the hand and the eye, going together, have made man what he is. Here again, of course, I do not overlook the enormous importance of language, and of the new value which it has given to the sense of hearing: but then we must remember, too, that language itself is mainly concerned with visible aspects of things—especially in its earlier stages—and mainly calls up in our minds ideal pictures of visible objects. When we further recollect the long infancy of the human baby, and the length of time during which visual impressions form the enormously larger proportion—nay, almost the entire content—of its nascent consciousness; when we recollect that for many months it hardly exerts its tactual and muscular powers at all, but knows the world mainly as a shifting phantasmagoria of sights, slowly correlated in its experience with touches and grasps; when we recollect all this, we cannot possibly overlook the vast and preponderating importance of sight in building up the human intelligence. If we contrast the wild carnivore, sniffing the track of its prey, scenting its mate and its young, taking stock of all nature by smell, remembering its way and such places or creatures as it encounters chiefly by olfactory signs—with the man of science, accurately measuring everything in the last resort by an appeal to the delicately discriminative sense of sight, employing microscopes and micrometers, dividing thermometers into visibly graduated decimals of degrees, testing chemicals by means of visible reactions, reducing the vague indications of all other senses—touch, taste, smell, heat and cold, pressure, muscular tension—to the definite indications which sight alone can yield; we shall see how absolutely essential is the predominance of sight for the evolution of the highest intelligence. Blind species of inferior mammals, like the moles, seem hardly inconvenienced by the want of sight: but a blind species of men, substituting olfactory for visual impressions, is almost a transparent absurdity.

Finally, I need hardly add, to guard against a possible mis-

apprehension, that I do not suppose any particular brain-elements once engaged in the elaboration of smell-impressions to have been afterwards turned aside so as to engage in the elaboration of sight-impressions, or the carrying on of any other functions whatsoever. Such a supposition I hold to be absolutely incompatible with the theory of distinct functional localisations in the nervous system. It appears to me that the activity of every nerve-cell, as well as its subjective concomitant (if any), must be strictly determined by its place in the whole system—its connexion with peripheral end-organs and with other cells elsewhere. Nor do I suppose the relations of part with part—and the functions of the various regions—to be by any means so simple as I have perhaps seemed to make them here, for the sake of brevity in exposition. All that I wish to suggest is that, while originally the main part of the brain was the part concerned with the co-ordination of smells and motions—now, in certain special groups, such as birds and Primates, the main part is that concerned with the co-ordination of sights and motions. The purely olfactory regions have dwindled; the visual regions and the regions connected with them have increased; while higher co-ordinating elements have been superimposed above the whole mass. Thus in the end it happens that the cerebral hemispheres, originally, as I venture to think, mere special olfactory centres, have come to have little or nothing to do with olfactory sensations, while they are wholly engaged in the reception and co-ordination of visual sensations, and of more abstract relations ultimately founded for the most part upon visual symbols.

GRANT ALLEN.

II.—THE HOMERIC WORDS FOR 'SOUL'.

ALTHOUGH the following study is in itself a slight one, yet the field of inquiry in which it is an essay is likely at some future time to prove of almost limitless value to the psychologist who sets before himself for study the past history of human thought. While, up to the present time, those philologists who have turned their attention to philosophical questions—such as Geiger and Noiré—have directed their efforts chiefly toward the solution of that seemingly insoluble problem, the Origin of Speech, the less striking, but more positive, results afforded by the history of language have been to a great extent overlooked. In whatever way speech began, there can be no doubt that the successive changes of sounds leave on record the best history we can ever obtain of the early development of

ideas, and that this history has been opened to the world, in recent days only, by the growth of Comparative Philology. To this study of the history of ideas through a study of the changes of words, Chavée, one of its exponents, has given the name *Idéologie positive*.[1] It is Comparative Ideology, too, for its essential principle lies in the comparison of the words which at different periods of man's development have, roughly speaking, connoted the same idea; or else in a comparison between the different ideas which, in various stages of its use, have been connoted by the same sound. And when it has been more fully recognised than it is at present, that every word now bearing a moral or metaphysical (extra-physical) idea springs from a root which had originally a physical meaning; when such words have been—as they generally can be—traced onwards through various stages in which the physical and metaphysical senses are found to be gradually differentiating themselves, it will be acknowledged that, in the tracing of these roots and in the following out of the history of these words, we have entered upon the best way towards the building up of a thorough system of Inductive Psychology.

I do not pretend, however, in the following brief enquiry to contribute anything material to this boundless possible harvest of results; unless it be that any essay must be of help towards establishing the *principles* of study in a field so new. All that is here proposed is, to ask what was at a certain time the meaning of some four words, which may all, in one sense or another, be translated by our word *soul:* the time being the time of Homer, which, whatever the date which we assign to it, is at all events the era of the earliest literature of the Western Aryas. That *θυμός*, *ψυχή*, *σκιά* (*σχιή*), *εἴδωλον*, do not mean the *same* as our soul requires no lengthy demonstration; nay, that the Homeric sense of these words is not that of Pindar or of the Tragedians, that it is still more remote from the sense in which the words are used by Plato and the Philosophers,—this is likewise a certainty, incident to the growth of human thought during the intervals between the various eras. In trying to gain an insight into what Homer understood by *θυμός* and *ψυχή* and the rest, we must be specially upon our guard against the habit of using the words of our own language in any senses save those which are legitimately theirs. In translation we have often a loose and most misleading way of employing a certain word which we allow to take to itself fresh meanings according to the exigencies

[1] *Idéologie lexiologique ou positive*, by H. Chavée, a posthumous work published in 1878. The essay is interesting, as any essay in this almost unbroken ground must be; it is not without ingenuity and originality; but it is not, I fancy, perfectly trustworthy.

of the original: and we forget meanwhile that by this process we have dispossessed that word of nearly all its original power of conveying an idea. The first necessity is to dismiss from our minds all these *translator's words.* In enquiring after the significance of *θυμός*, *ψυχή*, *σκιά*, and *εἴδωλον*, our plan must be to render each as it occurs, by the nearest possible equivalent in the individual case; then, having collated these different translations and eliminated the separate elements from each, we have in the remainder the closest ideologue which our language affords of the Greek original.

I have said that it is probable, or more than probable, that every word has had its root in positive physical sensation. Of course the physical basis is much more easily traceable in some words than in others. Of the four words given above, *θυμός* alone is, in its own language, divorced from all sensuous meaning: so far as the Greek is concerned, it is a word of a purely spiritual or metaphysical character. *Mind* is the usual translator's word for *θυμός*; but it will be easy to show that the two are not really equivalents. Mind may be used as a short-hand expression either for the thinking and intellectual faculties or for the seat of thought, but it cannot properly connote the seat of emotion. Soul is a fitter word to express this last notion, and generally speaking, *soul* better translates *θυμός* than does *mind;* but soul, again, is a word of various significance, concerning the true meaning of which there has been no small amount of dispute.[1] *Θυμός* is the home of both thought and feeling. Where it seems best translatable by "mind" is in such a phrase as, *μερμήριξε κατὰ θυμόν* (*Il.* viii. 169), "he pondered in his mind" ("pondered in his soul" is, according to the usual meaning of soul, scarcely reasonable); *ἕως ὁ ταῦθ' ὥρμαινε κατὰ φρένα καὶ κατὰ θυμόν* (*Il.* i. 193), "while he was turning these things over in his *φρήν* and his *θυμός*"; *φρονέων ἐνὶ θυμῷ*, "thinking in his *θυμός*" (*Il.* viii. 430); *ἐέλπετο κατὰ θυμόν*, "he deemed or expected (not "hoped" here) in his mind" (*Il.* xiii. 8).[2] In none of these cases is *θυμός* associated with the idea of emotion. In many passages of this kind it is worthy of notice that *θυμός* is linked with *φρήν*. *Φρήν* means literally the breast or heart, and therefore, according to the usual fashion of primitive psychology, it might be supposed rather the seat of feeling than of

[1] Into which dispute, however, it would be by no means becoming to enter, while engaged upon an inquiry such as the present one. The primary condition of these ideological studies is that we confine ourselves strictly to the common use of words and never attempt to import into them any new senses which may be agreeable to our own theories.

[2] *Cf.* also iv. 163, and vi. 447, "know"; xxi. 137 (this is the *θυμός* of a river).

thought. However it had become the seat of thought, while *κήρ* or *καρδία* answered to our heart. Therefore it is that, when associated with *φρήν*, *θυμός* is rather the mind than the soul. In *Il.* iv. 309, *θυμός* and *νόος* are associated; but this connexion is much more rare, and in this particular case *θυμός* may be a contrast or supplement to *νόος* and not its analogue. So much for *θυμός* as *mind*.[1] On the other hand, the instances in which *θυμός* appears as the seat of the emotions are overwhelmingly common, far too common indeed to be instanced in detail here: *ἀλλ' οὐκ Ἀτρείδη ἥνδανε θυμῷ* (*Il.* i. 24), "but it pleased not Atreides in his *soul*"; *μάλα περ θυμῷ κεχολωμένος*, "mightily enraged in my soul"; *ἐμῷ κεχαρισμένος θυμῷ*, "dear to my soul"; *ἔχω δ' ἄχε' ἄκριτα θυμῷ*, "I have pain unceasing in my soul" (*Il.* iii. 412), are a few examples, and typical ones.[2]

In addition to these shades of meaning, *θυμός* has sometimes

[1] The following are some more instances in which *θυμός* is associated with the idea of thought or with *φρήν*: *Il.* xiii. 280, 487; xiv. 253; xv. 566; xviii. 4, 15; xx. 264; xxii. 78; *Od.* iv. 117, 120; v. 365 (the last two the same as *Il.* i. 193). Very frequently we hear of the *θυμός in* the *φρήν* (*πᾶσιν ἐνὶ φρεσὶ θυμὸς ἰάνθη*—*Od.* xv. 165, &c., as above). Here *θυμός* is rather soul than mind.

[2] As the frequent recurrence of the word *θυμός* in Homer renders impossible anything like an exhaustive analysis of its meanings; as there are especially certain *nuances* of those meanings which are instructive, but which I cannot touch upon, I will refer the reader to a number of passages ranged under various heads, and these passages he can consult for himself:—

θυμός, seat of pleasure—*Il.* i. 24 or 378, ; vii. 31 (xi. 520, &c.), 189, 192; ix. 189; xiii. 416, 494; xiv. 132, 156, 337; xv. 98, 674; xxi. 45; xxiii. 597 and 600 (here *μετὰ φρεσί*); and xxiv. 119, 147, 176, and 196. *Od.* vi. 155; x. 373-4; xv. 165, &c.

θυμός, seat of pain or distress—*Il.* iii. 412; v. 869; vi. 524; xii. 179; xiii. 86; xiv. 39, 475; xviii. 29, 53, 461; xxi. 270; xxii. 53. *Od.* ix. 295 (with this last compare what is said on p. 477).

θυμός, seat of love—*Il.* i. 196 and 209; ix. 343; *κεχαρισμένος θυμῷ* (v. 243, 826; xix. 287).

θυμός, seat of anger—*Il.* i. 429; ii. 223; iv. 494; vi. 326; xiv. 50, 158, 191; xv. 155; xvii. 254; xxii. 70.

θυμός, seat of desire (which is not love)—*Il.* ii. 589; iii. 139; v. 135; vii. 2; x. 401 (*θ.* active); xiii. 337; xxi. 65, 177; xxiii. 894. *Od.* i. 275 (if her *θ.* desires to marry—active); xv. 66.

θυμός, seat of hope—*Il.* xiii. 813 (*θ.* active); xiv. 67; xix. 328 (*θ.* active).

θυμός, seat of fear—*Il.* xiv. 40; xv. 280; xxiv. 672, 778.

In most of these cases *θυμός* is passive and evidently *possessed* by the affections of love, anger, &c.; but in some the *θυμός* is active, and in these instances it must be credited with something like a separate personal existence. So with regard to death, as we shall see, the *θυμός* is sometimes passive, sometimes active: sometimes it is breathed out or snatched away, sometimes (but more rarely) it *leaves* the bones or limbs.

a kind of materialism about it; it desires meat and drink and is satisfied thereby, as in that very common phrase, *οὐδέ τι θυμὸς ἐδεύετο δαιτὸς ἐΐσης*, "nor did their *θυμός* want (go without) any part of the equal feast".[1] *Θυμός* is frequently associated with *μένος* (strength), *ὦτρυνε μένος καὶ θυμὸν ἑκάστου* (*Il.* v. 470).[2] In this case it might well be translated *spirit* (in one sense of that word), as, "he roused the strength and spirit of each," but I believe the real meaning of *θυμός* is something a shade more material than our "spirit".

On the whole it would be hard to find any word in use among ourselves that better renders all the senses of *θυμός* than the philosophical expression the *ego* or essential *I*; so long, that is, as we imply in the use of the expression *ego* no philosophical theory of the nature of this personality, but only the aspect of it which is contemplated by common uninstructed intelligence. Thus the *θυμός*, as a conception which has a place in common language and belief, is realised more as a separate entity than is the philosophical *ego*; it comes much nearer to being credited with an existence distinct from the whole individual than the *ego* ever does. In the above examples the *θυμός* appears as a passive something, the seat of emotion; it is not, however, only this, but likewise the *mover* of the individual. Not only may a man be angry in his *θυμός*, angry that is in his *ego*, in *himself*, love in himself, have his self stirred, and so forth, but the *θυμός* or self may command, urge, move the man: *ἤ νυ καὶ αὐτῶν θυμὸς ἐποτρύνει καὶ ἀνώγει* (*Il.* vi. 439),[3] "if their *θυμός* moves and bids them"; *τά με θυμὸς ἐνὶ στήθεσσι κελεύει* (vii. 68),[4] "this the *θυμός* in my breast commands me"; &c.

Lastly we have to contemplate a remarkable series of uses in which the *θυμός* represents rather the *life* itself, the vital principle, that is, or vital spark, than the seat of thought or of feeling or even than the *ego*. We are sometimes told, when one man has killed another, that the former took away (or tore out) the *θυμός* of the latter (*ἐκ*, or *ἀπὸ θυμὸν ἕλοιτο*, *Il.* v. 317, 346, 852; x. 506, &c.),[5] at other times we hear of the *θυμός* being *destroyed*.

[1] *Il.* i. 602; ii. 431; and xxiii. 56; see also ix. 177 and *Od.* iii. 342, 395 (another common phrase).

[2] Also v. 792; vi. 72; xv. 667, &c. In xxiii. 468 and elsewhere *μένος* seizes upon the *θυμός*.

[3] See also *Il.* iv. 263; vi. 444; vii. 74; viii. 189, 322; ix. 101; xiv. 195; xv. 43; xviii. 90, 176, 426; xix. 102; xx. 77; xxii. 142. *Od.* v. 89; xv. 395.

[4] *Il.* vii. 349, 369, and viii. 6 (same); xiii. 784; xix. 187. *Od.* iv. 140; xiv. 517; xv. 339; xvi. 81 (these three, the same).

[5] *Cf.* also *Il.* v. 848; vi. 17; xi. 381; xiv. 439; xv. 460; xvii. 678; xx. 403 (an expression which makes *θυμός* closely resemble *ψυχή*); xxi. 112, 179, 296; xxii. 68; in all of which cases the *θυμός* appears as passive at death.

In *Il.* i. 205, Achilles in his rage prophesies that Agamemnon will soon destroy his life—*τάχ' ἄν ποτε θυμὸν ὀλέσσῃ*.[1] This expression would apply well enough to life, and might be applied to the "self"; but it would hardly apply to soul, in the sense in which the word is generally used. Sometimes a man consumes (or eats) his own *θυμός*—*καμάτῳ τε καὶ ἄλγεσι θυμὸν ἔδοντες*, *Od.* ix. 75. Frequently, in passages relating to death, the soul takes the initiative, and is not destroyed or taken from the body but itself *leaves* the body at death: *λίπε ὀστέα θυμός*, "the *θυμός* left his bones," is a common expression in Homer.[2]

I think it is clear from these instances that *θυμός* is something more of an entity, and is possessed of more activity than our *mind* or *soul* are thought to be and have, when considered in themselves. Of course in our employment of these words we are largely influenced by the tradition of former use, and each expression which we choose does not imply a positive belief. It implies the former existence of a positive belief, however, which has become so worn away by time that it descends to us only in the shape of a metaphor. No confusion between the physical and the abstract is now necessarily implied in such an expression as "my heart yearns"; but the expression is a sure witness to the previous existence of a phase of thought when the heart was believed to have a sort of separate identity, and when that physical phenomenon was confounded with metaphysical notions, with a soul or an *ego*. In the case of the Homeric use, we have got so much nearer to the time from which such phrases date their origin, and we must not therefore interpret them in the metaphorical sense which they now bear. We have only to read Homer with some attention, to see in how different a way all the mental ideas are conceived by the poet from the way they are conceived by ourselves. As, at first, man had no idea of the colours green and blue as abstract ideas and apart from the green thing or the blue thing, so (even at a later time) he had no conception of mind or thought, of virtue or vice, of courage or fear, as pure abstractions. Virtue and bravery and fear were not for him affections of the mind, any more than for him fever and plague were affections of the body. The mind—or better the *ego*, the *θυμός*—was *possessed* by fear, the body by disease;

[1] See also *Il.* viii. 90, 270, 358; xi. 342; xviii. 92; xx. 412. *Od.* xii. 350, &c. In these cases we have sometimes *ὄλλυμι* used, sometimes *ἀπόλλυμι*. And the sense is sometimes "destroy," sometimes "lose".

[2] The *θυμός* is active in the following passages: *Il.* xii. 386; xiii. 671; xxiii. 880; *Od.* iii. 455, and the passage quoted from *Odyssey* later on; also, the most important of all, *Il.* vii. 131, which is given below. It is worthy of notice that a *θυμός* is possessed by animals as well as men, and leaves them at death (*Il.* xxiii. 880).

and when the thought, which here lies in embryo, was taken hold of by the myth-making faculty, *Φόβος* (Fear), *Δειμός* (Terror), *Λοιμός* (Disease), became beings, *dæmons;* then at last they received definite shapes.

Θυμός may be looked upon as the soul or the *ego* as that is contemplated in its relation to the *living* man; but even while thus limited in its existence, we can watch that soul growing more and more into a separate entity. In the beliefs concerning a future state, the soul is required to assume a definite shape. *Θυμός* is not suited to fulfil the functions now demanded of the soul, for although the *θυμός* leaves (of its own accord) the bones, there is small hint of its continuing to exist when the body has been destroyed;[1] nay, as we have seen, sometimes it is distinctly said to be itself destroyed. For something to which a clear notion of a separate existence should attach, men required an idea more distinctly physical than *θυμός*, something which had an existence in experience as well as in thought. The something which they chose was the breath. According to the opinion universally received among the Aryan nations, and perhaps by most of the nations of the world, the vital principle (or, as we say, vital spark) was concentrated in, *was* in fact, the breath of the body. *Ψυχή* is therefore only one of a large class of words, all of precisely similar origin, around which substantially the same beliefs grew up. *Ψυχή* is allied to *ψύχω* to breathe; in Sanskrit we have *âtman* soul, in Latin *animus, anima;* all three derived from original roots *an, anti,* breath, and allied to the Greek *ἄω, ἄημι,* as well as to *ἆσθμα,* a heavy breathing. *Spiritus* has the same meaning; it is allied to the Slavonic *pachu* odour, *pachati,* to blow; the German *Geist,* and our *ghost* are probably in part onomatopoetic, and suggest by onomatopœia the action of breathing: etymologically, they would appear to have a somewhat wider significance than *ψυχή* and *âtman,* and to image the life or spirit as the *air* of the body, not as the *breath* simply, which properly means only the air of the mouth. *Gischt, Gäscht,* froth, witness to this wider sense.

We might very well always translate *ψυχή* as *breath* in Homer; but if we do so we must be prepared to make allowance for the myth which grows up around the conception. Like the vital spark itself, the breath is seen to depart when the man dies; in the most distinctly physical use of *ψυχή* which we meet with in Homer, it is said to pass the *ἕρκος ὀδόντων,* the hedge of the teeth,[2] and when once it *has* passed this bar, it can

[1] Only in one passage, see p. 482.

[2] *ἀνδρὸς δὲ ψυχὴ πάλιν ἐλθεῖν οὔτε λεϊστὴ*
οὔθ' ἑλετὴ ἐπεὶ ἄρ κεν ἀμείψεται ἕρκος ὀδόντων.—*Il.* ix. 408.

hardly be brought back again. It has gone; but whither? The purely negative answer would be, it has disappeared; and so long as we are dealing with the world of the living, this is all we are required to assert. The following passages may be cited—among a hundred others—as giving a good idea of the ψυχή, regarded as a distinct entity, but still as a passive one: *Il.* v. 296; viii. 123, 315, &c.—τοῦ δ' αὖθι λύθη ψυχή τε μένος τε, a very common use in Homer. The man's ψυχή (breath) and his strength are here described as loosened or relaxed (the same phrase is very frequently used of a person's *knees* when he is killed), the idea being perhaps that the breath or vital principle is knit up in him while alive. Here is another example: σὴν δὲ ψυχὴν ἀφέλωμαι (*Il.* xxii. 257), "If I take away thy breath" (= life), one of the most common uses in Homer. The distinction between ψυχή and life—the former being an entity, a substance almost, the latter being an abstraction,—is shown in the employment together of ψυχή and αἰών (*Il.* xvi. 453; *Od.* ix. 523). Αἰών is life as an abstract idea, and so it is to ψυχή very much what νοῦς is to θυμός. The ψυχή is still passive in such a passage as *Il.* v. 654, (thou shalt) "give glory to me and thy soul (ψυχήν) to horse-renowned Hadês". Or in that opening passage of the *Iliad* wherein Achilles's anger is spoken of as sending many souls (ψυχάς) down to Hadês. This notion is already an advance upon the purely negative one, that the breath has disappeared. Mythology first substitutes for this expression the allied one, that the breath has gone to the unseen *place* or the concealed *place;* the Greeks said to Ἀΐδης (*A-ειδης*); our own ancestors said to Hel (from Icel. *helja*, to hide). Before the time when we first meet with either Hadês or Hel, they have ceased to be places and have grown to be persons; and the idea of a kingdom of the dead over which they rule has been developed into a quite definite myth. It results from the development of the myth of the Hadês-kingdom that, when we are no longer dealing with the upper world, and come to be concerned with another, the ψυχή assumes a distinct personality. The active sense begins to creep in when the ψυχή is spoken of as (of her own power it seems) leaving the body (*cf. Il.* vii. 330, &c.), and the full individuality of the ψυχή has been reached when, as in the case of the deaths of Patroclos and of Hectôr, we are told (*Il.* xvi. 857; xxii. 362)—

> ψυχὴ δ' ἐκ ῥεθέων πταμένη Ἄϊδόσδε βεβήκει,
> ὃν πότμον γοόωσα, λιποῦσ' ἀνδρότητα καὶ ἥβην

"The ψυχή flew from his limbs and went to Hadês, bewailing

its fate, leaving behind it (ἀνδρότης) its (or *the*) human nature and youth." [1]

This is the nearest approach to a myth which we get while we are dealing with the living world, *i.e.*, so long as we are dealing with the ψυχή in its actual manifestations. When we descend to Hadês or from any side enter the *other world*, the mere meaning of ψυχή is complicated with what mythology may have to tell us concerning the nature and the life of incorporeal spirits; and though the actual meaning of the word, and the mythic nature of the thing, run so much into each other that they cannot always be kept apart, we must yet guard ourselves, as much as we can, against confounding them. If the breath be now conceived as having a quite separate existence, and if any speculations arise as to the nature of this state, it is clear that the very slight *phenomenal* existence which belongs to the ψυχή, by right of its name, must be eked out from some other phenomenon. What then are the phenomena which next to the breath have suggested to mankind the idea of a second individuality beside that which is bound up with his body? Three have been specially influential in this manner, namely, the *shadow*, the *reflexion* (in water), and the *image* seen in *dreams*. These form an ascending scale, so far as regards their *apparent* phenomenal existence: the shadow is the shape and nothing more; the reflexion has the shape, the colour, and the garments of life; the dream-figure, in addition to the possession of this bodily resemblance, can hear and speak.

The forms in which these ideas are presented to us in the Greek, whenever they come to image the departed soul, are σκιά and εἴδωλον: ὄνειρος occurs sometimes as *seeming* to represent a ghost, but of its use actually to signify a departed spirit we cannot be sure.[2] Among the three ideas, shadow, reflexion, dream-image (which, it has been said, are in an ascending scale of apparent reality and apparent separate individuality), it would be natural to expect that the division between the first and second would be broader than that between the second and third. For though the reflexion cannot speak audibly, still it can apparently listen, and it can open its mouth. It might well have been thought that the disabilities in the way of a communication between man and his reflexion were not inherent in the latter; so that the idea would be, that the

[1] Ἥβη, agreeably with what was noted concerning *fear*, *plague*, &c., is imagined as a distinct being, not as a *state*.

[2] Ὄνειρος certainly cannot be reckoned among the Homeric synonyms for 'soul'.

reflexion came and spoke to men in sleep, but could not speak while the original of the reflexion was alive and awake.

It cannot, however, be asserted that the *εἴδωλον* is ever meant by Homer to include the reflexion; I find that the word *σκιά* is undoubtedly used to signify reflexion;[1] though not, so far as can certainly be proved, by Homer. We must be content, I think, to leave in some doubt the apportionment of the three ideas between the two words. But we must credit *εἴδωλον* with generally signifying the *image* in the fullest degree in which it could be realised, that is to say the image seen in dreams. When *σκιά* is introduced, it expresses the extreme unsubstantiality of the dead. Two passages may be quoted which illustrate the use of *σκιά* in connexion with the other words which are discussed in this paper. In the first, Kirkê directs Odysseus how he must go to the house of Hadês, and how when there he must consult the *ψυχή* of Theban Teiresias (*Od.* x. 492, &c.), "a blind seer, but one whose understanding (*φρένες*, pl.) is firm (still attached to his *ψυχή*) to whom, even though dead, Persephonê has left his mind (intelligence, *νοῦς*) that he might be wise; but the rest flit about, shadows"—

> *ψυχῇ χρησομένους Θηβαίου Τειρεσίαο*
> *μάντηος ἀλαοῦ, τοῦ τε φρένες ἔμπεδοί εἰσι·*
> *τῷ καὶ τεθνηῶτι νόον πόρε Περσεφόνεια*
> *οἴῳ πεπνύσθαι· τοὶ δὲ σκιαὶ ἀΐσσουσιν.*

The second passage occurs when Odysseus has been conversing with the *ψυχή* of his mother Antikleia (*Od.* xi. 204, &c.), and at the end of their converse, the narration goes on: "She spake, and now I, pondering with my understanding (*φρήν*), desired to lay hold on the *ψυχή* of my dead mother. Thrice I essayed, and my whole soul (*θυμός*) urged me to embrace her. But thrice from my hand like a *shadow* or even a *dream* (*σκιῇ εἴκελον ἢ καὶ ὀνείρῳ*) it flew away. And sharper grief arose in my heart; and to compel her I spoke with winged words: 'Oh, mother, why stay you not for me to lay hold on you; that even in Hadês we two, folded in each other's arms, might have (some) happiness (even) in our grief? Has great Persephonê then sent me only a semblance (*εἴδωλον*) that I should weep the more?' So I said; and my honoured mother straight answered: 'Alas! my son, wretched more than all other men. Persephonê has in no way deluded thee. But this is the state of mortals after death. Their nerves no longer hold the flesh and bones' (or, 'they no longer

[1] Pausanias, ix. 31, § 6, speaks of the *σκιά* of Narkissus.

have nerves holding the flesh and bones'), 'for these the strong force of fire has consumed, what time their *θυμός* first left the white bones. But their *ψυχή* flying, flits about (flits aimlessly about) like a dream (*ὄνειρος*)'."

We lose the full force of this imagery if we allow our thoughts to dwell upon the feebler reflexion of it in later writers. Later poets may use words like these in an unreal sense; but with Homer the picture is a perfectly definite one. When Pindar calls man a *σκιᾶς ὄναρ*, dream of a shadow, when Æschylus speaks of the *εἴδωλον σκιᾶς*, each is speaking the language of poetical half-belief. When *σκιά* appears in Homer, it is with a full sense of its thinness and unsubstantiality; but it is still thought of as a positive entity.

The *εἴδωλον* or dream-image renders most accurately the mythic notion of the soul, that is to say, the soul as it is imagined to be actually appreciable by the senses, when, on rare occasions, it appears on earth (*e.g.*, *Il.* xxiii.) or on the occasions, rarer still, in which a living man has descended to the realm of the dead (*Od.* xi.). Thus, as has been said, in this mythic state the *ψυχή* becomes identified with the *εἴδωλον*. To Achilles when *asleep* comes the *ψυχή* of Patroclos, "like him in all things, in size, in its beautiful eyes, and its voice, and with like garments on" (*Il.* xxiii. 65). Sometimes in accounts of ghosts, such as these, *ψυχή* and *εἴδωλον* seem convertible terms, as in *Od.* xi. 51 and 83, when the soul of Elpênor is first called his *ψυχή* and afterwards his *εἴδωλον*, and in *Il.* xxiii. 72, where we are told that the *ψυχαὶ, εἴδωλα καμόντων*, "the breaths, the images of the dead," keep Patroclos from entering Hadês' realm; but in a neighbouring passage to this last, we see that they are not identified. Achilles exclaims—

> *Ὤ πόποι, ἦ ῥά τις ἔστι καὶ εἰν Ἀΐδαο δόμοισιν*
> *ψυχὴ καὶ εἴδωλον, ἀτὰρ φρένες οὐκ ἔνι πάμπαν,*

"Alas, there is in the house of Hadês a breath and image," &c.

Shortly before we have been told that the *ψυχή* of Patroclos went into the ground like smoke (*ἠΰτε καπνός*), an image well suited to the breath (especially if we extend this idea by taking in the smoke which is as it were the breath of the funeral pyre)[1] but not to the *εἴδωλον*.

We never hear of the *εἴδωλον leaving* the body as the *ψυχή* does. There is not, it would seem, a link during life-time between the man and his *εἴδωλον* as there is between the living

[1] See what is said below of the etymological meaning of *θυμός*. I have treated the mythical side of this belief more fully in an article in the *Contemporary Review*, October, 1879.

man and his θυμός or his ψυχή. A question, indeed, arises as to whether the εἴδωλον exists while the man is still alive. It ought to do so: because the image of a living man may be as well seen in dreams as the image of a dead man. We might suppose that, "as echoes of man's speech far in secret clefts are made," the body was supposed to have a shadow living in some special home appropriate to these unsubstantial creations. But this theory does not quite square with the fact that when the gods wish to make use of images of living men, as Apollo of Æneas,[1] Athênê of Iphthima,[2] they *make* them, and do not call them from their home. In spite of these two instances, however, it is hard to believe that, in ordinary cases, when a man dies, where nothing is said of divine interposition, his εἴδωλον comes into existence, not having existed before.

This question, however, hardly lies within the limit of the present inquiry, which is, not to trace out the myth of the soul and of the other world, but merely to trace, as far as possible, the distinctive ideas which the Homeric Greek attached to each of the four words we have been discussing. We may now rapidly survey the chief points which have been established.

Of the four words, θυμός alone is divorced (for the Greek) from any experiential significance. The curiously close connexion between the Greek θυμός and the Sanskrit *dhuma*, smoke, the Latin *fumus*—its connexion, too, with the Greek θύω, to burn, offer, θύελλα, storm, Goth. *daunis*, storm—might lead us to doubt whether θυμός itself had not once a physical significance not dissimilar from that of ψυχή. But for the Greek the physical side has been altogether lost. And as it has thus disappeared, the θυμός does not lend itself to any myth arising from the belief in the persistency of the soul in a future state. Though this *ego* is a distinct entity, it is so much bound up with the body that it can *scarcely* be imagined separate from it. I can only recall one passage in which the θυμός is said to descend to the house of Hadês. It occurs in *Il.* vii. 131, and is for its singularity worthy of notice. Peleus, says Nestor, if he heard of the defeats of the Greeks, would pray that his θυμός might go down to Hadês' home (θυμὸν ἀπὸ μελέων δῦναι δόμον Ἄϊδος εἴσω). The ψυχή is more physical than the θυμός, and, while we are still upon the upper earth, serves well to express the soul as a *vital principle*. When, however, we pass to another world, the ψυχή alone would be too unsubstantial to allow the growth round it of any mythology, and so we pass on to the *doubles*, the shadow (with which latter is perhaps identified the reflexion) and the dream-image; and to these ideas attaches the Homeric mythology of the

[1] *Il.* v. 449, *sq.* [2] *Od.* iv. 795, *sq.*

other world, as we may read it in *Il.* xxiii. and *Od.* xi. and elsewhere.

I may say in conclusion that the above essay is entirely without controversial object, and, as I conceive, is without controversial value. Seeing that this kind of inquiry is of a purely scientific character and aims to establish for itself strict laws of research, all chance of a useful employment of its methods would at once disappear, if words came to be arbitrarily severed from their usual significance to favour any previous theory. In calling *θυμός* and the rest equivalents for soul, I do not wish to premise anything concerning the entity which the word soul is supposed to connote; nor to use that word in any other senses than those which I believe usually attach to it. And concerning the belief in the existence of the soul separate from the body, that belief, it is obvious, rests upon certain ontological premisses, which are in no way affected by what inquiry may show are the experiential notions which have been associated with the ontological conception. The immortality of the soul is the persistency of the *ego;* our view regarding the doctrine depends really upon our theory of the *ego,* that is, upon the relative weight we attach to the premisses and arguments of ontological and of experiential philosophy.

C. F. Keary.

III.—G. H. LEWES'S POSTHUMOUS VOLUMES.

At the close of a life largely devoted to research and speculation the late George Henry Lewes began to publish his most general and important conclusions in a series of volumes entitled *Problems of Life and Mind.* The first two of these laid the "Foundations of a Creed," by expounding the method of science, the limitations of knowledge, the conditions of inference, and the categories of matter, force, and cause. In the third volume the "Physical Basis of Mind" was discussed and illustrated; and that unhappily was as far as this remarkable series of disquisitions proceeded during the life of the author. Amongst his papers, however, remained some materials for subsequent volumes: and accordingly a small one on *The Study of Psychology* appeared early in 1879, and later in the same year another, larger, but unfinished and fragmentary, dealing with certain more special psychological questions. These last two volumes form the subject of the present article: they would have been reviewed in Mind much earlier but for unavoidable delays.

The merits and defects of the earlier volumes of the series belong also to the later. When the first problems appeared it was often complained that the author's philosophical position and purposes could not be distinctly perceived. The studies undertaken in connexion with his *History of Philosophy* seemed to have rendered him too desirous to reconcile his own view of the world with incompatible doctrines, and to strengthen his position by the prestige of remote alliances. Such a disposition accompanied not unnaturally an inclination to excessive controversy with neighbouring systems, and to a loosening of native relations rarely healthy and rarely successful. At the same time, in spite of an instructive section on "Rules of Philosophising," the method pursued was wanting in the coherence and precision suitable to the subject; and a somewhat literary and cursory mode of treatment gave rise to apparent contradictions and other impediments to comprehension. Compensating this, however, there were always vivacity of thought and felicity of illustration, the talent of marking suggestive topics and of pointing to unsuspected vistas of speculation. Such was the prerogative of a man to whom no region of inquiry was unfamiliar. Everyone who opened his book might profit, and he who read with sympathy read with pleasure.

The sympathies of the student of psychology who reads these last volumes are liable indeed to be estranged by the author's way with psychology and psychologists. His attitude towards these unfortunate butts of the positivist's ridicule, to some of whom more than to anyone else positivism owes its existence and its strength, does not much differ from that of Comte and, to be sure, with the proper adjustments was much more timely fifty years ago, while at any time more becoming to almost anyone than to Lewes. They are, he says, still without agreement in doctrine or method, divided into schools with leaders and party-cries: one is for Locke, another for Kant. Hence he declares at the outset that Psychology remains to be constituted: for "the constitution of a science means (1) that *circumscription* of a class of phenomena which, while marking its relations to other classes, assigns it a distinctive position in the series of the sciences; (2) that *specification* of the object and method of search which, when aided by fundamental inductions established by experiment, enables all future inquiries to converge toward a self-sustaining and continuous development". It might however be plausibly maintained that a continuous development has in fact, without any such explicit and formal constitution, been sustained from Hobbes to Spencer: and it is manifest that a considerable development of any science must always precede its formal constitution.

The above quotation indicates generally the scope of these volumes which aim at constituting Psychology. *The Study of Psychology* comprises discussions of the motives for studying that science; its definition; and its method of investigation: the remaining volume, fifth and last of *Problems of Life and Mind*, is for the most part an exposition of certain fundamental inductions.

As for the motives to this study it is enough to say that the author recognises both a speculative and a practical interest. The speculative is partly theological, and partly the special impulse of scientific curiosity: motives which, though indirectly practical, are nevertheless broadly distinguished from the direct practical interest which mental science derives from its bearing on education and government.

The definition of Psychology, drawn up by Lewes with great care, calls for more consideration: it is, he says, "the analysis and classification of the *sentient functions and faculties*, revealed to observation and induction, completed by the reduction of them to their *conditions of existence* biological and sociological". And we are told that in thus making Psychology the science of the facts of *sentience* rather than of *consciousness* there is the double advantage of ranging it "under the general science of life, and of rescuing many phenomena from the ambiguity arising when they are unconscious". We find in fact that three important questions spring from the first part of the above definition: as to the relation of Psychology to Biology; whether neurility and sentience are identical, or are cause and effect, or what other relation subsists between them; and whether there are sentient states of mind themselves unconscious, but necessary to the explanation of conscious states.

In answering the first of these questions the author has a manifest desire to adhere as closely as possible to Comte, but cannot adopt his views without extensive modifications. Psychology is, he says, a branch of Biology, treating not of all vital but only of sentient phenomena. But he admits that it is dependent for a part of its data upon introspection, and even that all those modifications of the organism, both objective and subjective, which, subtle and obscure, are due to experience, and make no part of our native and common endowments, must for the present at least be interpreted subjectively. Nay, he goes so far as for the present to restrict Psychology to the phenomena of the human mind, "partly because of the supreme interest of human phenomena, and partly because we can less easily understand the mental phenomena of animals".

Whilst coming to such conclusions himself, he takes occasion to examine the views of the same subject which have been

published by J. S. Mill and by Mr. Spencer. His criticism of Mill is based upon an insufficient comparison of passages. Extracts are unduly dwelt upon which suggest the possibility of some mental states being wholly independent of bodily states; but whoever considers the whole drift of ch. 14, b. vi. of the *Logic*, and ch. 15 of the *Examination of Hamilton* must perceive Mill's real opinion to have been that there is probably a thorough-going correspondence between all mental states and some bodily ones. And indeed his view of the relation between Psychology and Biology differed little from Lewes's own. He seems to have thought Psychology presumptively a department of Biology, but best regarded as an independent science, so long and so far as it comprised laws of mind not connected by induction with laws of the bodily organism: not connected by induction, I say; for that one sort of these laws could ever with propriety be said to be derived from the other (as Lewes is apt to say), Mill would always have denied. And in this tentative delimitation of the two sciences he set as usual an example of circumspection and caution.

The attack on Mr. Spencer's view of the position of Psychology begins by attempting to obliterate the line he draws between that science and Biology, on account of the more explicit reference contained in psychological propositions to correlations in the environment. But the result is little beyond Mr. Spencer's own admission that the two sciences "are not demarcated by a sharp line". The same author's further distinction that Psychology alone deals with facts furnished by self-analysis, is met by the statement that "we cannot separate Psychology from the other sciences on the ground of its phenomena being feelings. . . . All sciences deal with feelings. Psychology alone deals with them in their subjective aspect." As if any other distinction than this had ever been intended! Again, according to Mr. Spencer, "the thoughts and feelings which constitute a consciousness are absolutely inaccessible to any but the possessor of that consciousness". It would perhaps have been better to say that one consciousness is never directly accessible to another; but the intention plainly is to deny the possibility not of inferential but of intuitive knowledge of another consciousness. Lewes, however, meets it by shewing that inferential knowledge of another's thoughts is possible!

Futile polemic is not prepossessing in these busy days; and I would not have noticed these specimens of it, had they not been too characteristic of the work in which they occur, not only by their want of care, which is excusable in an unfinished production, but also by the anxiety they reveal to make a position of independence and originality against everyone, with

the honourable exception of Comte. Clearly our author had at this point no very material difference from those upon whom he animadverts; and therefore how much better to say, 'Here are two inquirers with whom I am happy to agree, which raises some presumption of the truth of our common doctrine,' rather than—'Here are two from whom I shall rejoice to diverge if by any ingenuity I can accomplish it, though thereby increased suspicion attach to all three!' In Metaphysics, indeed, since the paths of error are many and devious, ingenuity thus exerted is seldom unsuccessful; and perhaps the confused history of that subject hitherto is misleading both as to the ease of originality and as to the ideal of the scientific inquirer. But it is impossible that Science worth the name can have a similar history. Conspicuous originality can be possible only in the infancy of science; and perhaps an eager desire of it will not characterise the maturity of the human mind.

Upon the relation of neurility to sentience Lewes's opinion, though his language wavers slightly, is pretty well known to be on the whole, that they are identical or "two aspects of the same fact". The doctrine has appeared in more than one of his earlier writings, in the first and second volumes of *Problems of Life and Mind* (where, by the by, most of the important positions of these later volumes were hinted at), but most explicitly in the third volume, *The Physical Basis of Mind*, which was reviewed in MIND IX. by the Editor: I shall therefore treat this point the more briefly. The speculation is advanced as a means of being rid of Dualism, that mutually exclusive opposition of Body and Mind, which has occasioned so much anxiety to modern philosophers by having been stated at the outset in such a way as to raise the difficulty and keep it at a maximum intensity. By accepting Lewes's suggestion we may now call Body and Mind, or neurility and sentience, not different things, but the same thing differently viewed, two aspects of the same fact: feeling, we may say, is a neural process, and a neural process is feeling—one fact regarded now subjectively and now objectively. We shall thus avoid that task of explaining the apparent interaction of Body and Mind in sensation and in volition, which has bred hypotheses with such amazing fecundity. In affirming the identity of neurility and sentience, Lewes means to deny that they ever stand to one another as cause and effect. Cause and Effect, I understand him to argue from another point of view, are also identical; to distinguish them is a logical artifice; the effect is nothing but the meeting of its conditions, *i.e.*, its cause: and, if so, sentient states cannot be, as popular science assumes, the effects of neural processes.

But perhaps Dualism is preferable to such modes of surmounting it even if more successful than the present seems to be. The idea of Dualism, whatever its origin, rests at present upon the empirical contrast of objective and subjective phenomena. This contrast was formerly supposed to indicate a correlative transcendent contrast; and in some systems the indication was declared to be illusory, and a transcendent unity posited instead. Since Kant, however, or rather, since Hume, it is wonderful that anyone should have thought it possible to find, or a serious exercise to seek, for the problem of reducing Dualism to Monism, any but an empirical solution. The empirical contrast can only be brought to empirical unity; and that, if it can be done at all, must be by finding for objective and subjective phenomena some common ground or element. Instead of this, however, Lewes (and many a kindred system from which his but verbally differs) leaves the empirical contrast, the "two aspects," and merely assigns them to "the same fact": which as it is not empirical, is unknowable and transcendent,[1] a subterfuge of the pre-Humean type; and whether it exists or not, who knows? Such atonement of Dualism seems to be made in mockery of Hume; but it remains to be seen who will laugh last.

Nor does the identity of neurility and sentience gain any support from the author's peculiar doctrine of Causation. Cause and effect, he says, are never different things: but here again he admits that they are "two aspects of the same phenomenon"; and this empirical difference between cause and effect may correspond with the empirical difference between neurility and sentience. If so, neurility and sentience may empirically be cause and effect; and this is probably as much as the popular view requires. The difficulty connected with the causation of consciousness, has two stages: the causation of particular states of consciousness, and the causation of consciousness in general. At the first stage, according to the common view, the difficulty arises in this way: whereas in ordinary cases of physical causation the activity of the cause, regarded as motion, is absorbed without remainder or further consequence in the effect, it

[1] Such at least is the interpretation which reserves most meaning to the assertion that a neural process and its mental accompaniment are the same fact. But on a reconsideration of various passages—especially *Problems*, II., iv., 4—his view appears rather to be that the concomitant neural and mental changes are both modes of the same general fact of Feeling. The mental change is of course feeling, say, Fear; and the nerve with its changes may be metaphysically resolved into possible feelings, optical, tactile, &c.: but are these "the same fact"? We may as well call Asia and America identical, or two aspects of the same fact: to wit, of the same planet.

appears that in the exceptional case of certain nervous movements there is, besides further movements, which might alone absorb their efficacy, another additional consequence, namely, Feeling. This seems anomalous: but nevertheless Hume's answer seems sufficient, that all we know of Cause and Effect is learnt by experience, and if in the same way we learn that mental states are the effects of bodily ones, we must accept it. The admission, however, that each state of consciousness is the effect of some bodily state leads at the next stage to the inference that consciousness in general may be similarly explained. But, natural as this conclusion may be in Cosmology or the scientific history of the world, the Metaphysician cannot but observe that the 'causation of consciousness in general,' requiring us (as it does) to form a consciousness of something preceding all consciousness, is a phrase intrinsically absurd. Hume's solution then of the above anomaly has only departmental validity; the general problem remains an excuse for reiterated speculation. But two conditions seem to be imposed upon any sound solution: that it must be empirical or in terms of experience, and that it must be a generalisation. All Spinozistic solutions have the appearance of generalisation, but without the reality, because not in terms of experience.

Lewes's conclusion, then, that neurility and sentience are identical, is not strongly recommended by either of the reasons given for it. But, granting the conclusion, it would certainly follow that many sentient states are unconscious; for we are unconscious of far the greater number of nervous changes, and they must all be sentient. To limit Psychology to the facts of consciousness would be, the author says, to exclude unconscious intellectual, sensational, volitional processes, in short, "the greater part of our mental life". No one would wish to make such an exclusion. Whether there are states of the organism themselves unconscious but from the scientific point of view necessary to the explanation of consciousness, is scarcely disputed; but are these unconscious states sentient and mental? The question is partly verbal. The author extends with painful straining many names of subjective phenomena, such as 'sentience,' 'sensibility,' 'consciousness' to the objective department, or what is usually considered such: to which by much reiteration they seem gradually to communicate a sort of subjective tinge. He is aware of the strange uses to which words are thus put; but to Mill's objection that 'unconscious feeling' is something very like a contradiction, he replies that "that depends on the definitions". Besides ambiguities and the doctrine of the identity of neurility and sentience, I do not know that any

other argument is offered except this—"that nervous tissue is the same throughout, in property as in structure"; so that sentience, being admittedly a property of nervous tissue in some tracts, must be so in all, though for the most part unconsciously. Another form of the same argument is that neural processes, though unconscious, must be sentient, because they occur in a sentient mechanism. Hence a decapitated frog is perhaps unconscious, but its movements are for all that directed by feeling. Indeed you see that they are so, Lewes says, because they so closely resemble the movements of a frog with its head on. Every man believes that other men and at least the higher animals have feeling because they behave much like himself: the same argument applies to the decapitated frog. If one objects that the conditions have been altered by beheading, and that many facts suggest the localisation of consciousness in the brain, the answer probably is that nervous tissue has the same properties throughout.

Whether this is the case experimental physiologists must determine in a physiological sense. Only let us hope that, whatever their conclusions may be, they will not call an unconscious something by a name that connotes consciousness. It would be better to invent any number of new names than to retard our escape from Babel. For psychological purposes, however, it may be doubted whether the problem is rightly taken up when it is made a question whether unconscious feelings exist. Admitting such things to be possible, their actual existence is not important in the same way as that of material imperceptibles, such as the luminiferous ether: since subjective feelings are not credited with perdurability, or identity in successive several experiences; they do not stand in the relation of primary to secondary qualities. In short, they have not those attributes which mankind as well as men of science generally agree to accept as the basis of explanation: it is usually enough that they have existed, or even that they might have done so. To the psychologist, therefore, the question is not so much whether unconscious feelings exist, as on what conditions feelings become unconscious, and nervous stimulation fails to excite consciousness. The existence within the organism of seats of consciousness other than that which we identify with ourselves, is not absurd but is unverifiable; the existence of unconscious feelings in the empirical ego is not only unverifiable, but as to the form of statement absurd. But it is a question of the utmost interest upon what conditions feelings are frustrated or become unconscious: whether they are overpowered by others, or decay with age; or disappear from trains of memory or habit by rapidity of transition; or are submerged, subordinated, and

transformed during the growth of intuitions. The laws of frustration and obliviscence, and of the revival of associated ideas in spite of obliviscent connexions, must always, even because they are laws, be a more interesting and a more hopeful subject of investigation than the bare existence of entities so ill-adapted to positive inquiry as unconscious feelings seem to be.

We have now briefly discussed Lewes's definition of Psychology and the questions arising from the first part of it, and we come to a subject which may be connected with the second part of the definition, namely, his view of the science's method of investigation, which may be described as a combination and comparison of three lines of inquiry, the Introspective, the Biological and the Sociological.

The admission of Introspection has already been mentioned as a point at which Lewes diverges from Comte; and he defends it against both Comte and Kant: whose paradoxical denial of the possibility of a faculty which every person exercises, is only comparable with the denial of the possibility of motion which is a property of everything. It would have been more excusable, he observes, had it been contended "that observation of external phenomena was impossible, because they could only be observed through the internal changes they produced". "Introspection is observation," he argues, and both it and external observation are modes of feeling which must be referred to the same sensorium; their modality is due to the modes of stimulation; and "whatever place is assigned to observation in scientific method must be assigned to Introspection". Nevertheless, whilst Introspection is essential to Psychology, alone it is inadequate: for it is, as Kant observed, inexact; it cannot deal with unconscious mental states; and it cannot directly reach the subjective experiences of others, without which Psychology must lose the name of Science and become no more than the natural history of individual minds.

But in spite of all that our author has written on this subject his view of the position and worth of Introspection is imperfectly clear. When he declares that although such a source of information must be admitted the method of the science does not on this account differ from that of others, meaning that its basis must still be inductive, the contention seems either to be superfluous or to imply a confounding of introspection with simple inspection, as if he were thinking of those writers who, having adopted first principles upon simple inspection, have thence proceeded to a facile deduction of the universe. But, on the other hand, he is plainly aware that true introspection is a method of observation and induction; and, indeed, it may be maintained that methodical introspection has done more

than anything else to dissipate what Mill calls *à priori* fallacies of simple inspection, and to discredit the spectral philosophies that seemed to embody them. Sometimes again he surely attributes too much power to introspection; as when he supposes it to give us assurance of the control of the will over our movements, that is to say, that feeling as such is a cause of movement; which is one of the arguments he relies on to refute the doctrine of animal-automatism, in spite of the argument's apparent incompatibility with his own doctrine of the relation of sentience to neurility. But the exposure of the futility of such a pretended consciousness is as old as Hume. At other times he gives Introspection less than its due, attributing to it various illusions—the notion of a double consciousness suggested by the struggle of higher and lower motives, and the dogma of free-will. Yet in a chapter entirely occupied with the refutation of this latter dogma his own argument is based essentially upon introspection, and only accompanied by a parallel biological explanation manifestly suggested by introspection. In fact neither Biology nor Sociology, though lending valuable aid, is needed to establish moral causation. It was not in reliance upon these sciences that Spinoza and Jonathan Edwards denied the freedom of the will. The question seems to have had a theological origin: it did not arise from introspection; nor so far as my own observation goes does introspection afford it any excuse. A sounder objection to introspection is that it gives us no knowledge of the subjective experience of others; but we may reply that there can be no such knowledge without it. However to this end self-introspection be supplemented, it cannot be dispensed with. One supplementary method is that adopted by Mr. Galton, to collect the subjective experience of as many other people as possible. But that can only be done by inducing them to resort to introspection. Or if we seek to infer the feelings of others by observing their conduct, this involves the supposition that when they act like us they feel like us, and what that is we know by introspection.

However, no one now contends that Introspection is alone sufficient for Mental Science; and the need of assistance from Biology has long been recognised. In these volumes, needless to say, the importance of such assistance is not overlooked, but neither is it at all overrated. The author warns us against relying on current systems of nervous physiology whose theories are usually no better than provisional hypotheses. "Much of what passes for physiological explanation of psychological processes is simply the translation of those processes in terms of hypothetical physiology." Nor if our physiology were more trustworthy would it take us far, he says, in the explanation of

the human mind: it could only suffice for Animal Psychology; and, amidst the increasing belief, which comes with the doctrine of evolution, in a community between animal and human life, we must guard against supposing the resemblance to be greater than it is. Lewes had begun to prepare himself for the systematic study of man by a preliminary study of animals, but found himself "constantly thwarted by fallacies of anthropomorphic interpretation," which could not be eliminated "until a clear outline of the specially human elements was secured". The resemblance, such as it is, belongs to the "functions" of men and animals, that is to the older, simpler, and more permanent activities of the organism; but incommensurable divergencies arise in the human being with the progressive acquisition of "faculties," that is, of the more recent, complex, variable, and modifiable activities which depend upon the power of profiting largely by experience, or upon educability. Even the older functions are far from being the same throughout organic life: we cannot, he says, properly call a bee angry, or even attribute foresight to a fox. He agrees therefore with those who, in opposition to Mr. Darwin, insist that man is separated by an impassable barrier from all the lower animals. This is chiefly due to human society and to the great social acquisition, Language. "Language enables Man's intelligence and passions to acquire their peculiar characters of Intellect and Sentiment." Hence though the psychology of animals is simpler than that of man, it is less intelligible to us; and the methodological rule to proceed from the simple to the complex, is not so trustworthy as the older rule to proceed from the better to the less known, or from the known to the unknown.

But reasonable as it is to suppose that animal consciousness is very different from our own, there must be so much resemblance as to render Comparative Psychology an invaluable guide through many problems; as, for example, the order of the development of emotions, their classification, and consequent deductions in Ethology and Education. Moreover it is not only that an animal's mind is simpler than our own, but the simplicity of the environment in which it acts, and in relation to which it is what it is, gives it the comparative isolation so desirable in study and so difficult to obtain in studying mankind. Such obvious considerations Lewes cannot have overlooked; but his habit of substituting the suggestiveness of an essay for the comprehensiveness and precision appropriate to the treatise, led him to dwell only on what seemed most novel or important, instead of giving the complete and systematic account of biological data and applications which was to be looked for from a man so intimate with the subject in a work

expressly on the Method of Psychology. The same complaint must be made of the treatment of what our author probably regarded as the most important contribution he had to make toward the study of the science, and in making which he in fact considered himself to have for the first time constituted it.

We have seen that both Introspection and Biology are for different reasons unsatisfactory and inadequate aids to the explanation of the Human Mind: they must be supplemented by some further means, and this is found in Sociology. "Man is a social animal—the unit of a collective life—and to isolate him from Society is almost as great a limitation of the scope of Psychology, as to isolate him from Nature. . . . The profound differences which distinguish man from the animals can be shewn to depend on the operation of the Social Factor which transforms perceptions into conceptions and sensations into sentiments. . . . Without Society no need of Language. . . . Without Language no Tradition; . . . without Tradition no Religion, no Science, no Art." These quotations are from ch. iv. of *The Study of Psychology:* in ch. viii. he illustrates his meaning by sketching the development of the Moral Sense under social conditions, and points out the important data afforded by History. "We may term History an experiment instituted by Society, since it presents conspicuous variations of mental reactions under varying social conditions," and exhibits the evolution of the Sentiments, Science, Art, and (in a word) of Culture or the General Mind. To expounding his conception of the General Mind, the whole of ch. ix. is devoted. The existence of such an influence "is implied in the familiar use of such terms as *the* Mind, Common Sense, Collective Consciousness, Thought *(Das Denken)*, Reason, Spirit of the Age, &c. Obviously these terms indicate something over and above the individual mind, transcending its limitations and correcting its infirmities. . . . Language belongs essentially to the community by whom and for whom it is called into existence. In like manner Thought belongs essentially to Humanity. As every spoken word presupposes an intelligent hearer, so every conception implies an impersonal Reason representing relations that are essentially impersonal." If, however, any empirically-minded reader shudders at these words and suspects the approach of mysticism,

"Of Night primæval and of Chaos old,"

he will be reassured on turning the page, and finding that "impersonal" in the last sentence meant little else than indifferent or impartial. For we read—"The abstraction Mind, once extricated from the concrete facts of Sentience, is by

logical necessity immaterial, simple, one; for it is a symbol, like Virtue, Number, Cause, &c. As a symbol it has concrete realities for its significates; but this does not suffice for those who, having personified the abstraction, accept it as a *res completa*, . . . and thus the world-process has been assigned to a Soul of the World." Here the transcendentally-minded reader will perhaps be disappointed: and he has my sympathy; for why, since Language belongs to the community, should the style of mysticism disguise such an innocent meaning? The General Mind seems to mean no more than Culture in all its aspects. But, if so, its relation to Psychology is very ill-defined. Some expressions imply that it is the object-matter of Psychology; but on the whole it is best to understand Lewes to mean that the common nature of human minds is the object-matter of Psychology, and that the influence of the General Mind upon individuals is an important datum for the study. Still the mode of its operation upon the individual is not explained with any fulness; and even the way in which the extent of its influence is described amounts to not much more than an expansion of Comte's remark, duly quoted, that in human history "the Past more and more dominates the Present". Probably in the continuation of the work in subsequent volumes the author intended to work out this conception with comprehensiveness and detail; and we must deeply regret that he did not live to do it.

It is by his own anticipation of many-sided and far reaching applications of the doctrine afterwards to be made that we may explain the claim to novelty which he advances for it: for he expressly assigns its inception to Comte, though only as to its general range; and he perhaps meant that 'he discovers who proves' and that the proof remained for himself. On the other hand, if the first general statement of the power of Society in forming the individual belonged to Comte, many special applications of the doctrine had already been indicated. For besides that all laws and education imply a general belief in the influence of Society over the individual, it would be endless to cite the authors who in more or less general terms have remarked it. And if we confine ourselves to professed philosophers, we find at the outset Plato putting into the mouth of Protagoras an elaborate description of the ways in which the family and the state train their inmates in virtue; whilst in the *Republic* almost every page takes for granted the overwhelming power of tradition, institutions, and culture to modify human nature. Indeed, no one of the ancients seems to have realised the influence of Society over the individual so fully as Plato; though it was clearly recognised by Aristotle, Cicero, and others. In

modern times, previous to Comte, Mandeville might be mentioned as the writer who most relied upon this fact in psychological analysis; and his use of it is rather one-sided than false. Hume, too, and Montesquieu were deeply impressed by it; and the doctrine of Rousseau is well-known, that men were at first elevated by entering into Society, but in course of time corrupted and degraded. Since Comte, the most striking proofs of the importance to Psychology of taking account of the social environment of mind have been given by Mr. Darwin in his *Descent of Man* and by Mr. Spencer in his Corollaries to the *Principles of Psychology*. We are impressed whilst reading them with the great advantage which modern extensions of our notion of time bestow upon a thinker in dealing with the same problem of the relation of man to Society that older ones, however able, approached in vain. The changes traced by Mr. Spencer need ages to complete themselves, and whilst they depend upon also advance Society. Turn to Hobbes, and you find him teaching that the life of man in his primitive state was "solitary, poor, nasty, brutish, and short"; yet even then he credits man with reason capable of suggesting "convenient articles of peace," which was desired without having been known; and these were no sooner ratified and Society founded, than the signatories appear to have risen at once to modesty, mercy, gratitude, and justice. Mr. Spencer's appeal to social influences for the interpretation of mind begins indeed in the prehuman stage; whereas Lewes strangely undervalues the importance of society to the life of the lower animals. Whilst, however, Mr. Spencer only introduces the social environment to explain the development of Emotion, Lewes insists upon the influence which it equally exerts upon the development of Intellect; observing that the social factor "permeates the whole composition of the mind". Many hints of the way in which he would have applied this conception to the analysis of intellectual operations may be found in the last book of the fifth volume of his *Problems*; it treats of the Logic of Signs, and shows how the intellect is indebted to Society for the scaffolding of language and signs by means of which it climbs the heights of abstraction.

In estimating the nature and extent of social influences over the individual's development, we may consider first the mere fact of gregariousness and community of interest: this is what is chiefly taken account of by Mr. Spencer and by Mandeville, though the latter sees only the ego-altruistic consequences; and this is indeed the chief concern of general Psychology. To general Human Psychology belong certain secondary and derivative influences which prevail almost universally in human

society, namely, some sort of language, religion and government. Next may be noticed the more special conditions that differentiate particular communities: some of these are established for the very purpose of moulding the citizen, such as law, education, and to some extent literature; others are established for other purposes, or for no purpose clearly discerned, yet react no less strongly on the individual—or, without being established at all, spontaneously grow or are imposed by circumstances, such as arts and institutions, including particular forms of government and religion, variety of custom and language, and density of population. Such are the considerations which principally engage Montesquieu and Helvetius, and generally those inquirers who are sensitive to incipient ideas rather than profound. Lastly, the prevalence at any time of certain types of mankind must result from the competition of the several tribes or societies of men with one another, as the existence of the human race is supposed to have resulted from its successful competition with other forms of animal life.

One remarkable result of the study of human nature thus conducted will surely be a conviction of the perverse infatuation of those philosophers who have persisted in an endeavour to reduce all our motives to selfishness, and a growing belief that, on the contrary, unmitigated selfishness is very exceptionally the incentive of human conduct. For it becomes clear that Society is in fact older than Man, that the later is relative to the earlier, and that innumerable actions which even appear selfish to the individual's consciousness are really acts of sacrifice to the social or racial interest. Not only deeds of spontaneous sympathy or of dutiful virtue, but all that is done for the sake of fame, for rank, or for wealth has a social reference; and the commonest form of self-sacrifice is to plunge into poverty by accumulating an excessive family. In short a man is never entirely selfish unless he acts from the sole and immediate stimulus of hunger or thirst; and perhaps even the strength of these appetites, as well as of the bare love of life itself, is due as much to racial as to individual interests: as the present abhorrence of suicide obviously is. The writings of Schopenhauer contain abundant proofs and illustrations of this, which can easily be translated into the language of empiricism without losing intelligibility or instructiveness.

No space remains to give an account of Lewes's fundamental inductions of Psychology, or of such of them as are here expounded. But the manifestly unfinished condition of the last volume renders it an unfit subject of criticism; and moreover most of the main positions have been anticipated in earlier volumes. Nor are many of them novel. One for which novelty

is expressly claimed may be mentioned: he calls it the "Psychological Spectrum," maintaining that as red, green and violet contain each of them vibrations characteristic of the others, so Sensation, Judgment or Logic, and Volition, all of them enter into every mental state, though we call such states by one or another name according to the element that predominates. This is probably true; but I should not have thought it new: some close approximations at least might be found in the writings of his predecessors—of Prof. Bain, for example.

On the whole it will perhaps be just to credit Lewes with the doctrine of the dependence of the Human Mind upon the Social Medium as his signal and crowning discovery. He did in his life much meritorious work, but has left little that can as a whole survive. His *History of Philosophy* must necessarily be superseded. What longevity is in store for the literary and artistic criticism of our day it is perhaps too soon to judge; but his writings of this kind can hardly be immortal. And for these five volumes of *Problems*, I hope it will not seem a harsh judgment to say that they have not the peculiar qualities for the sake of which books are cherished by generation after generation. It is therefore desirable and just that some definite merit should be assigned to him in connexion with which posterity may remember his name: and of all the doctrines with which his name might be honourably associated, the rest are either too doubtful in themselves, or a claim to their origination is too liable to be disputed. But this truth is of the first rank in importance; once explained it is unquestionable; and Lewes has the sort of claim to have originated it that Bacon has to be considered the discoverer of Inductive Method: he was certainly not the first to apply it, nor even to mention it in general terms; but whilst he made some considerable applications of it, he was among the first to give it a deliberate and explicit enunciation and to predict its power and fruitfulness.

CARVETH READ.

IV.—"MIND-STUFF" FROM THE HISTORICAL POINT OF VIEW.

THOSE who have criticised Clifford's essay "On the Nature of Things-in-themselves," seem to have got from it the impression that, though interesting, it is out of relation to previous speculations. They admit, indeed, that anticipations of the theory of "Mind-stuff" may be found, but these anticipations are regarded not as what they really are—approximations

to Clifford's view, which have had a common origin in the most characteristic tendencies of modern thought—but as isolated suggestions of more or less merit, though of no real importance. Yet in the essay itself the remark is made that the view set forth there is one to which speculation has been tending for some time. And it may be shown by considering the theory of mind-stuff from the historical point of view, that it is the final form of a metaphysical doctrine which has been developed under the influence of the methods and results of physical and psychological science, but which, unlike some speculations that are scientific in their origin,[1] can be maintained against sceptical criticism; and, consequently, that it has strong claims on the attention of those who wish to arrive at a consistent view of things and who regard a metaphysical doctrine as the end of scientific research. In order to prove that all this is so, it will be necessary to describe briefly certain results of biological and psychological study which have rendered possible a metaphysical doctrine founded on science. When this has been done, it will be seen that Clifford's theory is a real attempt at a new construction in metaphysics. A historical account of the theory of mind-stuff may also serve to conciliate those who are suspicious of any theory that looks new and is ingenious and clearly expressed; for it will remove the paradoxical character by which clear and ingenious theories are generally affected. Afterwards, to make the doctrine of mind-stuff seem quite satisfactory, it must be defended as far as possible against the arguments of transcendentalists. It is therefore desirable, before tracing the historical development of Clifford's view, to consider the attitude of the transcendental and empirical schools towards one another. By this consideration of the position of the rival schools of

[1] Prof. Royce, in his article on "'Mind-stuff' and Reality," in MIND XXIII., seems to regard Clifford's theory as one of the forms of realism referred to here, and therefore as an attempt to revive a conception that has often been tried before in philosophy and has been found a failure. His first objection to it is that if it offers "the current 'monistic' explanation of the connexion between physical and psychical facts," then it is "merely a sort of scholasticism revived"; it is the substitution of a "worn-out metaphor," of a "fiction of language," for a scientific statement of the fundamental opposition of mental and physical phenomena. But the theory of Mind-stuff is shown by the historical view of it to be something quite different from the attempts that have been made to restore the conception of Substance either in its monistic or in its dualistic sense; for it was put forth by philosophers who had accepted the negative conclusions of idealism, and idealism is an essential part of it. That is, this theory, considered in its relations to modern metaphysics, is in the direct line of development, while the ordinary monistic systems are provisional theories devised for the sake of giving verbal consistency to a purely scientific view of things, or, as Prof. Royce calls them, "a sort of scholasticism revived".

metaphysics, the kind of objections that Clifford's theory has to meet will be indicated in advance, and at the same time it will be made evident that there was need for some such theory.

I.

The disciples of Kant and Hegel are fond of remarking that since the time of Hume those who belong to the same school of thought as Hume and his predecessors have given up all attempt at pure philosophy, and have confined themselves to psychology and the classification of the sciences. But, they say, the result of Hume's philosophy was not a result that ought to have been taken as final. It was only by concessions to "common-sense" that the philosophy of Hume could be made to seem as if it left room for science. Philosophers ought to have attempted a new construction which should be proof against scepticism, and not to have given up metaphysics as impossible; for a metaphysical doctrine is necessary as a basis even for physical science, and empirical psychology is not sufficient as a substitute for metaphysics. The reply that is usually made by the modern empirical school is, that the philosophy of those who declared experience to be the only source of knowledge was incomplete till the true way of meeting the difficulties pointed out by Kant had been suggested by the theory of Evolution. This answer is to a certain extent satisfactory, but that it is not entirely so is shown by the fact that those who have seen the importance of the theory of Evolution in psychology have not found idealism or scepticism sufficient as a metaphysical doctrine. The "transformed realism" of Spencer and the "reasoned realism" of Lewes, for example, have been put forth in opposition to idealism and scepticism. But neither of these views has been generally accepted by those who are disposed to accept as a whole the system of philosophy founded on Evolution. "Transformed realism" and "reasoned realism" are not able to maintain themselves against idealistic and sceptical criticism, and therefore many admirers of the philosophers who advocate these theories are content to go without a metaphysical doctrine altogether. On the other hand, the Hegelians say they have a system which contains in itself an answer to all scepticism as to the possibility of metaphysics. But their system has not had its form determined by scientific method, and consequently does not serve to explain the generalisations of science, but seems something quite apart from them. For this reason Hegelianism does not commend itself to those who wish to see unity introduced among the conceptions of modern science. Now if it can be shown that

the theory of "mind-stuff," while it is founded on a scientific view of things like the theories of "transformed realism" and "reasoned realism," at the same time does not make any attempt to escape from the necessity that is imposed on modern metaphysics of giving up all pretence of restoring the forms of ontology that were destroyed by Hume and Berkeley, then something will have been done towards proving that the system of Hegel was a premature attempt at reconstruction in metaphysics, and that the only way to arrive at a new point of view capable of superseding dualism was to study psychology and physical science for the sake of their suggestions, until a sufficient number of suggestions for a general theory of knowledge had been accumulated to make it possible to select from them those that are appropriate.

Up to the present time it has not been noticed that Clifford's theory reduced to its simplest form is identical with Schopenhauer's metaphysics of the Will. When the two theories are compared, it is obvious that Clifford's "elementary feeling" corresponds to Schopenhauer's "will as thing-in-itself". Schopenhauer explains that by "will" he does not mean anything like an actual volition, but a kind of fundamental feeling for which "will" is a better term than any other, since it suggests to the mind the element in actual consciousness that is most opposed to distinct cognition, and since this is the element that must be regarded as primitive. More recently the distinction here pointed out by Schopenhauer has been expressed in Mr. Spencer's classification of states of consciousness into "feelings" and "relations between feelings". Mr. Spencer himself has suggested the theory of mind-stuff as a possible view in the chapter in his *Principles of Psychology* on the "Substance of Mind," but has not developed it. Still it is clear that his classification of states of consciousness has led to an improved statement of the theory, for the term "feeling" is less open to objection than the term "will" as the name of that which is primitive in mind.

The importance of Schopenhauer's anticipation of the theory of mind-stuff will be seen when it is considered that Schopenhauer professed to found his metaphysics on science, and that at the same time he was, like Clifford, an idealist; his idealism having however been arrived at by the study of Kant rather than of Berkeley and Hume. As to his metaphysical theory of the Will, he asserted that it was a translation into philosophical terms of the physiological doctrines of Cabanis and Bichat. According to a French critic who wrote on the subject not very long since, all the characteristic doctrines of English and German physiological psychology are implicit in the works of

these physiologists. Even if we admit that some of the conclusions of modern schools may have been read into the statements of the earlier writers, yet in order that such a position as that of the critic referred to can be taken up, there must be many things in Cabanis and Bichat capable of having suggested to Schopenhauer the ideas possessed by the modern schools of psychology. Since Clifford undoubtedly found suggestions in these ideas, the historical parallelism between his theory and Schopenhauer's is very close. Not only have both theories their origin in science but also in the same group of scientific ideas.

The ideas that have done most to make contemporary psychology different from the psychology of the older empirical school are: (1) the distinction that has been drawn between consciousness, sub-consciousness, and unconsciousness as modes of sensibility differing only in degree, the older psychologists having taken into account only those elements of mind that emerge into full consciousness; (2) the application of the biological theory of Evolution to psychology; (3) the discovery by some German psychologists that the methods of experimental physiology may be applied to the psychology of the senses.

Schopenhauer's system was suggested by the first of these ideas. He set out with a theory of the external world held in common by himself and all idealists since Berkeley. In explaining this view he uses the terminology of Kant and distinguishes between the "representation" and the "thing-in-itself". The external world belongs to the representation and is often spoken of by Schopenhauer as "Maya" or illusion. Clifford makes use of the same term—representation—in setting forth the idealistic part of his theory. Sometimes the objection is made to this term that "it implies something representing and something represented". But the same answer may be given to this as to similar criticisms on Berkeley's "ideas" and Hume's "ideas and impressions". These philosophers had to explain that they used such terms merely as descriptive terms; they requested their readers to get rid as far as possible of all associations of the words "idea" and "impression" with the metaphors from which they are derived, and with physical hypotheses. The word "representation" has similar associations, and this must be borne in mind when it is employed as a philosophical term. After selecting from previous systems his metaphysics of the external world, the question occurred to Schopenhauer as to Clifford, What is the nature of the thing-in-itself? and he answered it in the same way. The criticism of Hume had made it impossible to accept Berkeley's view that "the substance of mind" is the thing-in-itself; and the empirical psycho-

logy by which all consciousness is resolved into impressions and ideas derived from impressions, was not found adequate as an explanation of things, for the "impressions" of Hume are merely portions of the "representation". The problem that demanded solution was to find something having the nature of mind but deeper than definite consciousness. If this could be found, and could be shown to be capable of explaining actual consciousness so far as explanation is possible, then the problem might be considered as solved.

The facts of physiology have at length led psychologists to see that the series of states of consciousness which it is possible to observe and classify by means of the introspective method alone forms only a portion of the mental life, that definite consciousness has a background of sub-consciousness and unconsciousness. At first it seems like a contradiction to speak of facts of unconsciousness as belonging to psychology; but when it is considered that the same changes in the nervous system may be accompanied according to circumstances by vivid changes in consciousness or by some sub-conscious change or may have no mental concomitant that can be detected by introspection, then it becomes evident that mind must be regarded as consisting of other elements besides those that appear in distinct consciousness; for it is absurd to suppose that the same nervous change taken by itself has different mental concomitants at different times. This conception, suggested by physiology, that mind is made up of elements which may be combined into what is called consciousness, but which, taken alone, are "unconscious," is really implied in the ordinary introspective psychology. The elements into which complex states of consciousness are resolved by analysis are not immediately perceptible in those states; the laws of association must be understood before the elements of actual consciousness can be detached; hence these elements may be called "unconscious". But the study of physiology was necessary to bring out clearly the conception of "unconscious feelings" as factors in mental phenomena. These elements of mind disclosed by physiology were regarded by Schopenhauer as the reality underlying all phenomenal existence, and the fundamental element in mind was called by him the Will. This term was selected because of the antithesis that there is between "will" and "intelligence"; intelligence—definite cognition—constitutes mind as we know it in its highest form; the term "will" is applied to what is regarded as the irrational element in mind—that which is irrational because it is more fundamental than reason. Now if the term "unconsciousness" as applied to mind is once admitted, it is impossible to stop short of admitting that every change in the

brain has a subjective aspect; from this admission it follows that every portion of the "representation" has a portion of "will" corresponding to it. Thus, according to Schopenhauer, the reality outside us is "will". The brain is "the will objectified". When we have that consciousness of resistance to effort which is the basis of our conception of external things, we are conscious of the presence of will as the external reality. The Representation is an illusion we construct for ourselves. It is derivative while the Will is fundamental.

Many of the ideas connected with the general conception of "unconsciousness" have acquired new importance lately, and it may be worth while to mention one or two of them for the sake of their bearing on Schopenhauer's theory. The "muscular sense" and the "organic sense" have been known for some time, and it is partly through becoming aware of the existence of these senses that psychologists no longer believe that all the factors of mental phenomena can be discovered by introspection. Recent theories of the origin of the perception of space, that of Lotze, for example, depend on the admission that there are unconscious elements in perception derived from the muscular and organic senses. But the most interesting problem that has recently been discussed in its relation to the idea of unconsciousness, is that of memory. It has now become a commonplace to say that heredity is unconscious memory. This way of describing the facts of heredity might have been suggested by the study of Mr. Herbert Spencer's exposition of the manner in which instincts developed by mechanical processes under the action of natural selection at length by gradual complication pass into rational processes, and rational processes, after they have been repeated often enough, into secondary instincts. Now this transition from instinct to reason and from reason to secondary instinctive processes cannot be imagined on the subjective side unless it is supposed that "consciousness" and "unconsciousness" are different merely in degree and not in kind. Thus we are brought back to Schopenhauer's theory of Will. At the same time we are led to consider this theory in its relation to the doctrine of Evolution, for the exposition in Mr. Spencer's *Psychology* that has just been referred to is closely connected with the doctrine of Evolution.

Though Schopenhauer put forth a biological theory which has some resemblance to the theory of natural selection, his philosophy was not determined in its general character by the doctrine of Evolution. This accounts for the difference between his theory of Will and Clifford's theory of Mind-stuff. Clifford had the advantage of writing when the idea of Evolution had taken distinct form, and this gives a certain superiority to the

theory of Mind-stuff, a superiority which consists chiefly in the substitution of the term "feeling" for "will".

The antithesis of "will" and "intelligence" is obviously identical with that of "feelings" and "relations between feelings". The latter mode of expressing the antithesis has the advantage that it is less vague, and that its terms are not so much associated with complex phenomena of consciousness as those used by Schopenhauer. But the fundamental distinction of feelings and relations could not be expressed with perfect clearness till the idea of Evolution—of ancestral experience—had enabled Mr. Spencer to extend the method of the older empirical school of psychology. This extension of the method of the empirical school consists in a hypothetical analysis of the ultimate feelings arrived at by introspection into still simpler feelings. Such a reduction of consciousness to simpler elements than those that introspection arrives at becomes conceivable when complex organisms are thought of as evolved from simple organisms; for rudimentary sense-organs imply rudimentary sensations. The result of Mr. Spencer's analysis is that, given "elementary feelings" and relations of unlikeness or of sequence, the most complex phenomena of consciousness may be explained by assuming that gradual development has taken place. This analysis is implicit in Clifford's statement of the theory of mind-stuff, but not in Schopenhauer's.

The results of the application of the experimental method to Psychology are also implicit in Clifford's statement of his theory. Fechner and others have shown by their "psychophysical" investigations that sensations which cannot be resolved into groups of simpler feelings by any process of introspection or analysis are made up of elements of sensation, and that it is by summation of these elements that actual sensations are produced. Results of this kind tend to confirm the hypothesis that qualitative differences of sensation depend on differences of combination of some unit of feeling which may be defined as a "shock" or a "tremor". The view that mind-stuff consists of such units was regarded by Clifford as the final form that would be taken by his theory. If the theory should take this form, it would be, as Clifford says somewhere, an "atomic theory" of mind. Since we have already an atomic theory of matter, there would thus be exact correspondence between the thing-in-itself and the representation, and a meaning could be assigned to the "proportion" formulated by Clifford at the end of his paper.

The theory of mind-stuff, as has already been said, is not open to the ordinary sceptical criticism of ontological theories, for it rejects as fictions both the "substance of matter" and

the "substance of mind". The ambiguities of the word "cause" also disappear in the final statement of the theory of mind-stuff, just as they do in the latest form that has been taken by the logic of the sciences. The fundamental axiom of inductive logic, "the uniformity of nature," as Clifford remarks, has become "an atomic uniformity"; and it has been stated by Lewes as "the law of identity" without any introduction of the word cause.[1] Corresponding to this improved statement of the law of phenomenal uniformity, a "law of identity" may be stated for things-in-themselves. All that it is necessary to assert is that units of mind-stuff exist and that they never cease to exist, though they are always forming new combinations.

II.

The arguments that are most frequently brought against the doctrine of the empirical school in general amount in effect to this—that it is an attempt to explain thought by sense, to show that the consciousness of personal identity and the consciousness of the distinction between subject and object are illusions depending on certain collocations of feelings in experience, and hence that feeling is the only reality; and that in trying to prove this position it takes for granted what ought to be explained. For, it is said, unless there is already in the simplest feeling some power of combining with other feelings, how are we to explain the first appearance of consciousness? And unless even the highest kind of self-consciousness is implicit in feeling, how is its appearance to be accounted for at all?[2] It is the perception of the difficulties pointed out by such criticism that has made the system of Hegel seem more plausible to some than that of the English school of philosophy. Hegel and those who agree with him, finding in the psychology of the empirical school the antithesis between "thought" and "sense," observing further that the philosophers of that school give their readers the impression that it is demonstrated that all but

[1] Clifford would have introduced some qualifications, in interpreting the law of identity, which Lewes did not think necessary; but he agreed with him that the Uniformity of Nature ought to be expressed as a law of changes of collocation, and not as a law of succession of events.

[2] This is an argument on which Prof. Royce, in MIND XXIII., lays much stress. Here, for example, is a compact expression of the whole series of objections from this point of view: "Consciousness is, in and for itself, an unity, containing a multiplicity of parts, but not wholly made by the summation of these parts. Now given a sum of mind-atoms, how shall consciousness arise out of them? . . . This unity itself, what of that?"

"sense" is an illusion, and having decided that this view is inadequate, try what can be made of the opposite view that thought is identical with being, that the "thing-in-itself"—that on which all phenomenal existence depends—is "self-consciousness," that the illusion is sense and not thought, the flux of feeling and not the consciousness they say we have of unity beneath the perpetual change in things and in ourselves. The fact that this view of things has been elaborated into a system shows that there is some defect in the ordinary statement of the empirical doctrine, and it seems at first as if this difficulty were inherent in the theory of mind-stuff also. For this theory has for its psychological basis the Spencerian classification of states of consciousness into feelings and relations between feelings, which is an accurate expression of the antithesis between "sense" and "thought," just as it is of the antithesis between "will" and "intelligence". The criticism from the Hegelian point of view of all empirical psychology may therefore be applied to the theory of mind-stuff under the form of such a question as this—If in the beginning only feelings exist, if the "elementary feeling" is the thing-in-itself, how do relations between feelings come into existence? This question has been asked in recent articles in MIND.[1]

The answer is that in the final statement of empiricism "relations" are just as fundamental as "feelings". All that afterwards becomes thought is implicit not in mere feeling, but in the primitive relations between feelings; out of the combination of elementary feelings having at first simple relations to one another, all the complexity of actual consciousness arises. Thus the self-consciousness which the Hegelians say must always be present is implicit at first as some simple relation between feelings, while the "unity" they say exists beneath superficial multiplicity is found in the stuff out of which actual consciousness is made; for this remains always identical with itself, though the forms of feeling constantly fluctuate and though no particular phase of existence is permanent.

But it may be said, if relations are as fundamental as feelings, why should the elementary feeling be called the thing-in-itself? For does not the term "thing-in-itself" mean something that exists out of relation? The reason for saying that "the elementary feeling is the thing-in-itself" may be made clear by the analogy of a mathematical limit. In passing from the higher to the lower forms of consciousness, feelings constantly become more prominent and relations less prominent, and this

[1] In "Monism," by Mr. E. Gurney, in No. XXII.; and by Prof. J. Royce in No. XXIII.

is true whether we arrive at the lower forms of consciousness by passing down the scale of mental evolution or by analysis of consciousness in its higher forms; hence it is possible to approach as near as we like to the conception of pure feeling existing by itself though never actually to reach it. But, as in mathematics, we may give a name to this ideal limit and say that pure feeling is the thing-in-itself.

It is true that, proceeding in the other direction, that is, passing from the lower to the higher forms of consciousness, we may approach as near as we like to the conception of pure thought entirely independent of concrete feeling. And this is how the Hegelian doctrine of the identity of thought and being has been arrived at. Fixing their attention on those forms of consciousness that are the last result of evolution, the Hegelians observe that the element of "relation," of "thought," becomes indefinitely more prominent than that of feeling. Thus they seem to arrive at pure thought just as the empirical school seem to arrive at pure feeling as the ultimate reality. It may, accordingly, be argued that "pure thought" should be called a thing-in-itself just as much as pure feeling, for it is also an ideal limit; the difference consisting in this—that while the Hegelian conception expresses the tendency of evolution by which "form" gradually becomes more important than "matter," the conception of the elementary feeling as thing-in-itself describes the origin of consciousness in raw material in which form is implicit as some simple relation. And there would be no objection to saying that thought is identical with being as an alternative formula with the other, that the elementary feeling is the thing-in-itself, if this were not regarded as an assertion that the highest forms of consciousness have been present from the first otherwise than implicitly, that is, that there has been no real process of evolution. Unfortunately the Hegelian principle is sometimes taken in this sense, while, on the other hand, no statement of the empirical doctrine has ever been supposed to involve a denial of the existence of thought and self-consciousness.

The admission that "feelings" and "relations" are equally real thus explains the way in which philosophers of opposite schools have come to conclusions that are apparently contradictory. When we think analytically, the act of attending to the feelings by the combination of which thought is evolved obscures the idea of the relations without which these simple feelings could not exist; and on the other hand when we try to see unity in a multitude of impressions, when we think synthetically, the act of attending to complex relations obscures the idea of the concrete feelings without which thought could

not exist. In Clifford's statement of the theory of mind-stuff, this admission that relations are equally real with feelings is implied, but it is said that "the elementary feeling is the thing-in-itself," because this formula embodies the results of the analysis of the complex into the simple, while the formula "thought is identical with being" seems to imply that analysis is superfluous. But without analysis there can be no explanation of things, for in seeking an explanation of things the question what is the origin of them is the most important; its solution is a preliminary to the solution of all other questions. Clifford's formula is an expression of the ideal limit beyond which no investigation into the origin of things can pass.

III.

The theory of Mind-stuff is of course metaphysics and not science, though it has been suggested by the results of the special sciences. It is impossible to verify it as a scientific hypothesis can be verified. The test of the truth of a metaphysical theory is, as Schopenhauer says, consistency, and not application to some new class of facts which it was not invented to explain—that is, not verification as it is understood in science. A metaphysical theory is an attempt to express the fundamental facts of consciousness in their most general form. When an assumption is seen to be ultimate, the question whether it is a necessary truth or a necessary illusion becomes meaningless. The only question is whether it is really fundamental. That this is so is admitted explicitly or implicitly by all schools, both those that start with the facts of feeling and those that start with the fact of self-consciousness or with some principle of reason. The acceptance or rejection of the theory of mind-stuff then ought to depend on whether it really expresses in their simplest form the fundamental facts—or the fundamental illusions—of consciousness. Now its only assumptions are these—that there is real existence external to ourselves, and that "nature is uniform". In Clifford's statement of the theory, the first of these is reduced to its simplest form as the assumption of "ejects," that is, mind and portions of mind-stuff external to the individual mind; the complications of material and mental substance are got rid of. The assumption of uniformity is also made as simple as possible; it becomes the law of "the identity of cause and effect," the assertion that what exists will continue to exist, a law which is equivalent on the subjective side to Schopenhauer's proposition that "will" is essentially "the will to live".

When the theory of mind-stuff is stated in this way it looks

something like a return to the belief held by those who first began to speculate on the causes of things, that external objects have a kind of life. This has been urged as an argument against Schopenhauer's system. It is said that his "metaphysics of the will" is merely an attempt to make the illusion that resistance is a form of volition the foundation of a philosophical system. The reply to this objection is now obvious. The feeling of resistance is the feeling which is fundamental in all our perceptions, and when an illusion is universal it is impossible to distinguish it from an ultimate truth. What is called the "illusion" of the identity of resistance with feeling is fundamental, and is merely the most general form of the assumption of "ejects"; it is therefore impossible to escape from it. But, after all, it may be said, this theory of Schopenhauer and Clifford is the consequence of a return to the speculative attitude appropriate to the primitive ages of philosophy, and such a return seems an anachronism. Some considerations to which this objection leads will show that, on the contrary, the theory in question belongs really to the last stage of philosophical evolution that can at present be imagined.

According to Schopenhauer's celebrated theory of æsthetics, the earliest attitude of the human mind towards all that surrounds it is the "subjective" attitude. At a later period there is disinterested contemplation of external things without reference to their power of causing pleasure or pain in the spectator. The attitude of disinterested contemplation is the "objective" attitude, and it is not till this has become possible that there can be appreciation of works of art. It is evident that a similar account might be given of the growth of science. It might be said that setting out from the "subjective" stage of thought and feeling in which things are regarded merely as useful or hurtful, pleasant or painful, we may reach the "objective" stage in two ways: that on the scientific side we at length attain to the conception of observation and experiment as a means of learning the causes of things, just as on the æsthetic side we attain by disinterested contemplation to the conception of the beautiful. Now the argument against Schopenhauer's metaphysics quoted above might have been founded on his own theory of art. It might be said that his metaphysical theory of the will is "subjective" and not "objective," and therefore belongs to the primitive stage of speculation. This shows that there is some defect either in his metaphysics of the Will or in his view of æsthetic development. It will be found that the defect is in his view of æsthetic development, which is true as far as it goes but incomplete. For there is a third stage of art (and also of scientific thought) which may be called "subjective,"

though it is in reality most remote from the subjectivity that Schopenhauer seems to have regarded as typical.

The "subjectivity" described by Schopenhauer is found in those speculations that had their origin in the period before science and poetry were completely differentiated. In mythologies, for example, an attempt is made to explain the causes of things, and at the same time things are regarded chiefly in their relation to the welfare of men. This period may therefore be called in a sense the period of the subjective stage of speculation. But the speculations of this early period seem to be subjective in character because the objective and subjective points of view have not yet been distinguished. The stage of speculation that is distinctively subjective comes last. Before it is arrived at an attempt is made in the various sciences to look at things entirely as portions of the object-world. Afterwards the introspective point of view is reached; it is seen that to think we can have a purely objective conception of things is to be under the influence of an illusion; we learn that all phenomena are phenomena of some consciousness. The introspective point of view is that which is distinctively subjective, and it is undoubtedly the last to be attained, as is shown, when we refer to the history of modern speculation, by the fact that Hume and Berkeley came after Bacon and Descartes. But though this subjective stage of speculation is the most remote from that of the primitive man, of those who made mythologies, it has a superficial resemblance to it, for in metaphysics and psychology as distinguished from physical science and cosmical speculation there is the element of self-consciousness, and the introspective method looks at first very much like the habit of seeing things merely as they affect the emotions.

Returning to Schopenhauer's theory of æsthetics, by which this view of the evolution of scientific thought was suggested, it remains to show that there is, as has been said, a final stage of the evolution of the æsthetic sense corresponding to the introspective stage of the evolution of the speculative faculty.

This final stage of æsthetic evolution is seen best in the case of poetry. One feature of the most characteristic modern poetry—that is, lyric poetry—is its subjectivity; and there is a certain resemblance between this subjectivity and that of the early ages, though they are really extremes having between them the "objectivity" described by Schopenhauer. Sometimes in reading lyric verse the impression is produced that the poet is expressing directly and simply and spontaneously the emotion that is present to him; but it is known that this is an illusion. Elaboration of rhythm, careful selection of epithets, the intention to produce a definite effect that has been distinctly

conceived beforehand, are recognised by criticism as essential to a lyric poem of the highest kind. Yet the result of all this is to give lyric poetry a superficial resemblance to those kinds of primitive poetry in which there is really direct and simple and spontaneous expression of the emotions. The difference is that early poetry is a product of emotion which has not been analysed, that is, of crude subjectivity, while modern poetry of the most typical kind is a product of self-consciousness, that is, of developed subjectivity. A process of analysis is necessary to bring into distinct consciousness the real effect of things on the mind, and it is the characteristic of the highest kinds of art to describe the effects of things rather than the things themselves. Thus it happens that expressions which seem the most direct are often the most artificial and poetry which seems the most passionate is often the most intellectualised.

This passage from the crude subjectivity of the early ages to the self-consciousness of the later ages is seen on the imaginative side of poetry as well as on its emotional side. One of the critics of Shelley has remarked that the images called up by some of his lyrics remind us of the sun-myths and dawn-myths of the primitive Aryans. To put it generally, there is a return in modern poetry from complex descriptions to simplicity of imagery. And this is one aspect of the change from the "objective" attitude which has substituted itself for the primitive mode of regarding nature to that of self-consciousness; for the simplicity of the early myths is the simplicity of vagueness, while that of the modern poetry that seems to resemble these myths in the character of its imagery is the simplicity of abstraction.

The apparent return to simplicity that is noticed in modern poetry may be observed in its form as well as in its imagery and its emotional basis. But the laws of lyric verse are, as has already been said, more complex than those of the "objective" poetry that attempts to describe nature and human life from the outside. The simplicity of the lyric is therefore artificial, and is distinguished by this character from the simplicity of the ballad for example. The same character of artificial simplicity is seen in the products of other arts when they reach their final stage as well as in the art of expression in verse, but it is sufficient to have illustrated from literature in its highest form as poetry the view that has been taken of the development of the æsthetic sense, literature being the art in which the greatest number of conditions are fulfilled.

A transition similar to that which we observe in passing from the earliest to the latest results of speculation and of art, may be seen in the growth of society also. It might be shown, by

quotations from Spencer's *Social Statics* or from Bagehot's *Physics and Politics*, that there is a transition from the anarchy of early ages through a period of authority, of law, of complex regulation, to a state of freedom. Perfect freedom, of course, only exists as an ideal limit, but a state of perfect freedom is conceivable in which law has disappeared except so far as it has become organic in the individual, and the description of such a state has a superficial resemblance to a description of "the state of nature".

All this goes to show that the apparent resemblance of the theory of Mind-stuff to the half-poetical, half-philosophical views of early speculators must be regarded as an argument in its favour, since this resemblance is a proof that the theory belongs to the last stage of thought that can at present be imagined. Those early speculators who have just been referred to had really the advantage of not being too much oppressed with the material of thought, and were therefore able to give a sort of answer to the most general questions that can present themselves. But the answers they gave did not satisfy those who afterwards studied nature in its complexity as a group of objective phenomena. It was necessary that the results of scientific investigation should become organic in thought before such problems as that of the thing-in-itself could again present themselves clearly. In the meantime there was a movement away from metaphysics. Then at length it became possible to think out from the point of view of self-consciousness a theory that should be really metaphysical and not an attempt to substitute science for metaphysics, but in which at the same time the results of scientific study should be implicit. Clifford's theory has the characters just described; and it has also the character that belongs to every final intellectual product, of appearing perfectly simple when it has once taken distinct form.

T. Whittaker.

V.—HEGEL: AN EXPOSITION AND CRITICISM.

Hegel has been brought nearer to the English mind in many ways since Dr. Stirling divulged his "Secret" to an incurious public sixteen years ago. From Oxford and from Glasgow there has issued a succession of books dealing with metaphysical, ethical, and religious problems from a Hegelian standpoint, and directly or indirectly expounding Hegelian ideas.[1] There are

[1] It is only necessary to refer to Professor Green's *Hume* and Professor Caird's *Philosophy of Kant*, to Mr. F. H. Bradley's *Ethical Studies*, Principal

signs of the leavening influence of these conceptions in other quarters. The interest evinced by critics like Mr. Sidgwick and Mr. A. J. Balfour in the new interpretations of Kant and in the whole movement to which they apply the name of Transcendentalism or Neo-Kantianism may fairly be instanced. But in spite of all this it cannot be denied that there still prevails a vast deal of misconception about Hegel, and what he professes to do for us. There is still a haze of mystery about his name; and the evil is increased, in the opinion of the present writer, by the false humility with which it is often the fashion to speak of him in friendly quarters. His followers are too fond of representing themselves as merely picking up crumbs at the banquet; most of them profess merely to guess at the mind of the Master without venturing to compass his thoughts. This has an evil effect in scaring away the uninitiated, and the frame of mind is in itself not altogether healthy. Hegel is not infallible, and he must, in the end, be known and judged as other men are.

Probably, however, still more mischief is done by the current idea of Hegelianism as an '*a priori*' system which neither begins nor ends in experience, and which, if taken at all, must be swallowed whole. Hegel's immediate followers in Germany did much to countenance this notion, insisting, as is usual in such cases, on the mint, anise and cummin, to the detriment of the weightier matters of the law. The reaction which has overtaken Hegelianism in the land of its birth is due, among other causes, to the impression thus created, that the substantial truth of its conception of the universe stood or fell with its infallibility as a system. It would be a mistake to over-estimate that reaction, for, in many respects, Hegelianism died only as a seed dies, when committed to the earth. "The fewest of those who are influenced by Hegel's spirit are themselves aware of it," says an outsider like Von Hartmann; "it has become the common heritage of the most cultured circles of the German people."[1] But if Englishmen are to reap the full benefit of Hegel's thought, it is important that his expounders should aim at greater freedom of treatment. The dialectic armour must be worn more loosely, if it is not to hamper them. When they succeed in this, they will also succeed in making plain that Hegelianism has no other basis than things as they are. Neither in his premisses nor in his conclusions does Hegel transcend experience; and when all

Caird's *Philosophy of Religion*, and, in the way of direct exposition, Mr. Wallace's *Logic of Hegel*. Professor Adamson's compact sketch, *On the Philosophy of Kant*, may, without injustice, be added to the list.

[1] *Vermischte Aufsätze*, p. 568.

is said, it is the essential soberness and practicalness of his system that is its greatest recommendation.

The aim of the present sketch is partly expository, partly critical. An attempt has been made at first hand to set the different parts of the system in their true light, and, to some extent, to estimate their value. An exposition and criticism must always be more technical than a piece of independent reasoning need be; and in the present instance the necessity of conciseness in a review of Hegel's general position has sometimes made the treatment more abrupt than is desirable in the case of unfamiliar conceptions. But this will not, I hope, be found to obscure the general view of the Hegelian philosophy, and of philosophy in general, which forms the basis of this essay.

It has been well remarked by Dr. Stirling, that Hegel, by burning his bridges behind him, has wantonly increased the difficulty of his system. Its appearance of utter insulation and the strange underivedness of its beginning prevent us at first from seeing its origin in the achievements of his immediate predecessors. This is perhaps to be accounted for by the fact that Hegel, as a matter of individual history, did not reach his fundamental conception of the universe along the lines of Kant and Fichte. He worked his way to it by the aid of the Greek spirit on the one hand, and by a profound study of the main religious ideas of Christianity on the other. The result of his solitary meditations was afterwards, one might say, poured into the mould of the Kantio-Schellingian philosophy, and took its place as the last term and summation of that development. But this can hardly excuse the almost disingenuous tone which Dr. Stirling remarks in some of his references to Kant. The very persistence of his polemic against Kant betrays the extent of his debt. That debt was in some respects more to Kant directly, than to Kant through Fichte and Schelling; for in his retirement at Frankfort Hegel had already reached his own doctrine of the Absolute as (in the first instance) a chain of thought-determinations, before Schelling gave his Philosophy of Identity to the world. The doctrine that the Absolute is Thought was, for Hegel, the direct result of his study of Kant.

Kant set out to find the necessary limits of our intelligence, but he naturally found it impossible to determine these limits without an analysis of the conceptions which form the structure of knowledge as knowledge. This investigation resulted in the discovery of the categories and of their supreme condition, the unity of apperception. Fichte, followed by Schelling, laid hold of Kant's unity of apperception and elevated it to a metaphysical principle as the Absolute Ego, or simply as the Absolute. In so doing they forgot—or at least temporarily ignored the

fact—that the *Critique* was essentially a theory of *knowledge*, and that this transcendental Unity was only "the vehicle"[1] of the conceptions, and consequently a mere empty form without its rational content. To this neglect I think we may trace Schelling's *Neutrum* and the transcendent predicateless Being at which Fichte finally arrived. Self-consciousness, Kant says,[2] is only "the reference to itself as Subject—the form of thought," and consequently self-consciousness, apart from thought, is, naturally, "an expression quite empty of content". It is here that Hegel takes Kant up. He fastens on what is really the core of the *Critique*, but which, up to that time, had been comparatively neglected—the Deduction of the Categories. It is as if he had said, 'Let us abstract a little from the *form* of thought. A thinker can be known only through his thoughts; let us see, therefore, what these thoughts are. Let us examine the nature of thought itself, and if self-consciousness is the necessary form of thought, we shall be able to exhibit that form as the result of thought's own nature. Putting the question more narrowly, let us examine the mutual relations of the categories which Kant offers us as constitutive of experience.'

Hegel often blames Kant for undertaking his critique of knowledge solely in a transcendental interest, *i.e.*, solely with reference to the question whether the categories are subjective or objective in their origin. He accuses such a criticism of failing to enter upon the content of these thought-determinations and their exact relation to one another. And in point of fact, if Kant's design be considered, the results he reached as to the structure of knowledge were, in a manner, accidental to his main inquiry and gleaned by the way. Kant's standpoint, however, involves, according to Hegel, an impossible question. Thought cannot criticise its own ultimate nature; it simply is what it is. The conceptions which form the body of thought constitute my nature as a thinker: they equally constitute the nature or framework of things. The idea of another Nature behind the one we know is a fiction without foundation. "Thoughts do not stand between us and things, shutting us off from the things; they rather shut us together with them."[3] An objective and disinterested investigation of the nature of thought as it is in itself, is therefore the only possible metaphysic. Logic and Metaphysic coincide, for in analysing the structure of reason—the build of its conceptions—we are analysing, according to Hegel, the essence of God and the thoughts He has embodied in Nature. What Hegel presents us with in the *Wissenschaft der Logik* is an

[1] Kant, *Werke* III. 274 (ed. Hartenstein). [2] *Ibid.*, p. 281 *n.*
[3] Hegel, *Werke* III., 17.

exposition of the uncoloured and simple essence of that whose nature it is to exist as Spirit and to view itself in things.

To the treatment of Kant's meagre table he brought a mind steeped in Greek philosophy. The subtle dialectic with which Plato treats such conceptions as limit and the unlimited, being and non-being, the one and the many, sameness and difference, had early fascinated him. The example of Plato, acting upon Kant's hint that the third category is the union of the other two, first prompted perhaps the attempt to introduce fluidity into the conceptions which we ordinarily use as hard and fast counters of thought. If we add the dominating influence of Aristotle's metaphysical formulae, we have the main factors of the Hegelian logic. His obligations to Fichte, however, are not to be forgotten. It was Fichte who first elevated the triplicity which Kant stumbled upon in the categories into an absolute principle of method. The thesis, antithesis and synthesis of the *Wissenschaftslehre* are the notion, the negation of the notion, and the negation of the negation which meet us in the *Logik*. Secondly Fichte's insistence on the supreme right of the Subject, after being in abeyance in Schelling, reappears in Hegel, who sums up all existence in the Absolute Spirit. And, thirdly, he also owes to Fichte the idea of *system*. What was set up in the *Begriff der Wissenschaftslehre* as an ideal, it is the boast of the *Logik* to be: "an absolute totality returning upon its starting-point, in which one thing leads to all, and all things to one".[1] The adequate scientific account of a conception according to Fichte is simply the determination of its place in the system—the showing what preceding notion determines that place, and what further notion has its place determined by the notion in question.[2] And in the *Sonnenklarer Bericht* he says:—"My exposition sets out, as every scientific exposition should, with the most perfectly undetermined, and determines this further before the eyes of the reader."[3] The words are an exact description of Hegel's method in the *Logic*.

Opposition and identity in that opposition is the formula exemplified in the development of every conception and the method by which we pass from the one to the other. Each is shown to be the prey of an immanent motion by which it glides into its opposite. The conceptions viewed in this movement are notions, and the system of all notions is the Notion. Synthesis through antithesis, fuller position through opposition, affirmation by negation may be said indifferently to characterise this method. Perhaps the last would best describe the nature of the dialectic progress. Hegel says himself in the Introduc-

[1] Fichte, *Werke* I., 59. [2] *Ibid.*, I. 55. [3] *Ibid.*, II. 414.

tion to the larger *Logic*:—"The only means of gaining scientific advance is the knowledge of the logical proposition that the negative is as much positive as negative," since it is the negation of a definite thing. Determinate negation contains that which it negates, and therefore possesses a content, and indeed a richer content than the positive whose negation it is. This is the method which Hegel assures us that he "*knows* to be the only true one". His own application, he admits, may be imperfect and capable of much elaboration in detail; but the method is a dialectic inherent in the subject matter. It is the course of the object itself *(der Gang der Sache selbst)*. The Notion determines itself; we look on, and observe "the necessity of the connexion and the immanent origin of differences."[1]

The method has been from the beginning the boast of friends and the scoff of enemies. What have we to say to it in view of statements like the above? Plainly the first thing is to admit unreservedly the value of the light thrown on the function of the negative. It is at once the most natural and the most fruitful way of considering a conception, to note the subtle affinities and insensible transitions by which it is linked to its opposite. The thoroughgoing application of this mode of analysing thoughts to the whole range of our general conceptions—its elevation in fact to a method—could not fail to produce rich results in the hands of a metaphysician like Hegel. We find accordingly, imbedded all through the *Logic*, passages of the most precious metaphysical analysis; and the ghosts of many an old controversy are laid when the light is let in on the innate dialectic of thought and things. Conceptions, among which ordinary, and even scientific, thought stumbles helplessly, are dissected to the last fibre of their chameleon-like nature, and from henceforth we master our conceptions instead of being mastered by them. It cannot, therefore, be denied that the dialectic method followed in the *Logic* is founded on the nature of thought, or, as it is expressed, is immanent in the notions themselves and not a subjective importation into them. And in the end this is no more than saying that no conception stands by itself, but all are linked subtly to one another. Thought is infinitely fluid, and makes no distinction which it does not again dissolve. Hegel is only making universal a principle, which, in its more obvious aspects, had engaged the attention of other thinkers, notably of Plato and of Kant.

But when all this is said, there can be no doubt that much unnecessary fuss and mystery has been made about the method. We are told to sink our subjectivity, and watch the necessary

[1] Cf. Hegel, *Werke* III., pp. 41-3.

evolutions of the Notion. But it is in vain that we are asked sometimes to believe that the whole chain would unwind itself before the eyes of any man who, with steadiness and sharpness enough of intellectual vision, took up in a spirit of faith the link of "Being". The *Logic* is like the temple of Solomon: no tool of iron was heard in the house while it was in building, but the stone, we read, was "made ready before it was brought thither". The materials for the edifice have been brought from all quarters of the world. Hegel's thorough knowledge of history and of philosophers ancient and modern, his acquaintance with science, his profound appreciation of the conceptions of religion, and his splendid powers of metaphysical criticism are all fused in the prodigious toil of the *Logic*. It is without doubt the most wonderful piece of dove-tailing ever accomplished by human ingenuity. The expression used—dove-tailing—does not imply that the connexions established are arbitrary. We may admit that in a number of cases they are forced; still in the main this is not so. But the word does imply that what is good in the *Logic* is the result of honest human labour, guided, it is true, by a fruitful thought, but not superseded by a magical and all-compelling method. And like all human work it is approximative in character and capable of indefinite rectification and amplification in detail. This is contained in Hegel's own admission quoted above, as well as in the improvements and transpositions made at different times both by himself and his followers. To assert anything else would be to claim inspiration for the system as the perfect, adequate and systematic transcript of the whole contents of human reason. And that is a claim which will hardly be pressed at the present day.

There is no need here—indeed it would be impossible—to begin with the ultimate abstraction of "Being" and give a list of the categories in which the *Logic* develops itself. That gives no idea of the value of the work, and may be found, besides, in the Histories of Philosophy. The value of the *Logic* lies not so much in the transitions themselves as in the way they are made—in the detail with which each conception is treated, and the changing lights by which it is illuminated. Not least valuable are the "Anmerkungen" or excursus, in which the dialectic of these abstract conceptions is seen in its concrete working—in philosophical systems, in mathematical and physical ideas, in morality and in religious thought. In particular no praise can be too high for his criticisms of Kant in this connexion.

There are still some misapprehensions, however, in regard to the *Logic*, which it may be worth our while to remove. Many criticisms of Hegel seem to father upon him the notion of a

thing-like existence of these pure thoughts prior to their existence in nature and in intelligence. Some critics even go further, and strain their imagination to conceive how in this "realm of shades" the more meagre conceptions give actual birth to the richer and higher. The absurdity of such views hardly needs to be demonstrated. Development, with Hegel, means no more than mutual implication. The dialectic method is as much analytic as synthetic; it is as much a finding of present differences as a generating of new ones. A first link of the chain is necessary in exposition, and we seem to begin with the absolutely simple and abstract. But neither in reality nor in thought is there such isolated simplicity and abstractness as we imagine to be the case here. "In reality we bring the *Begriff* and the whole nature of thought with us; and so we may very well say that every beginning must be made with the Absolute, just as all advance is only its exposition."[1] In fact, if the Notion be an organic whole, then it is impossible for the parts to exist before the whole; the whole and all its parts exist simultaneously. The system of notions is to be exhibited, further, as a development which finds its crown and completion in Spirit. Hegel lays great stress on the insight that the absolutely-true must be a result (and not a formless beginning, as with Schelling). But it is a result only in a sense in which it is at the same time the presupposition of the whole. The development is only ideal: thought *exists* only as spirit. The result is with equal right the first (or rather the only) existent, and the ground of the whole development.

One consequence of this is, that we cannot, in strictness, say that the result has been independently proved, because it has been reached in this fashion by the method. It was presupposed in the method all along. The formula which expresses the nature of the Absolute, and of which every conception (as well as every natural formation) is an instance, is originally a schema or abstract definition of conscious intelligence. The Absolute Idea is only the perfect form of the relation which is found at all times between a knower and his knowledge. It was there Hegel found his Absolute, and, in this sense, Hegelianism is a systematised anthropomorphism; it is content to dwell within a circle from which, in any case, there is no escaping. The identity of the human and the divine reason is certainly an immanent presupposition of the system, and not, in the ordinary sense, proved. Hegel knows only one Reason and one universe as the manifestation of that Reason. And the

[1] Hegel, *Werke* V., 334. Compare the whole of that chapter on the Absolute Idea.

fact remains, that nobody knows any other, or, from the nature of the case, can have any data for postulating different kinds of reason or thought. The burden of proof lies not with Hegel but with his opponent. The notion of an "intelligible contingency,"[1] so common since Kant, *i.e.*, of possible distinct varieties of thought, is the mere whim of a speculation intoxicated with its own acuteness and freedom from prejudice. It is a cheap profundity that asks after every demonstration, 'But might it not all have been otherwise?' Of course it might; there is no *a priori* reason for existence being what it is. But philosophy deals with what is, and Hegel showed his good sense in disregarding such motiveless possibilities.

In what has gone before we have been nominally confined to the *Logic*, though much of what has been said applies to the whole system. But if our philosophy is not to remain abstract, an advance must be made from pure thought to the consideration of Nature and Spirit. The *Begriff* is the soul of both Nature and Spirit, and is the core of Hegel's philosophy; but it is as yet abstract thought—thought as it is in itself. In Nature we see thought as it exists outside of itself—objectivised; but the end is not reached till thought exists also for itself: it exists in and for itself only in the self-conscious intelligence. It is difficult at first sight to see the necessity of passing from the *Logic* to these other spheres; and indeed it may at once be confessed that the imagined dialectic, which drives thought out of itself, does not exist. Thought sums itself up in the Absolute Idea, which is defined as the unity of the Notion and its reality—as the pure Notion which has itself for its object. There seems no adequate reason for proceeding further; the definition appears to be the same as that of the Absolute Spirit, with which philosophy in general closes. We are told, however, that the Absolute Idea is confined to the element of pure thought and still logical. The objective contemplated is still merely the system of thought-determinations which constitute the *Logic*, and the Idea wants the richness of concrete life—the life of philosophy, of art, of religion and of the State—which is found in Absolute Spirit. But this determination of the merely logical nature of the Idea is only possible through the presupposition of an existent concrete —Nature and Spirit—from which it has been abstracted. We could not predict from the *Logic* that the Idea would manifest itself in Nature and Spirit, if we did not know from experience that it does so. Spirit, as has been seen, is presupposition as

[1] "Intelligible Zufälligkeit." This phrase is used by Lange in his *History of Materialism*.

well as result; and Hegel says himself: "Nature is the first in time, though the absolute *prius* is the Idea."[1]

The transition from logic to the realm of nature has always been a favourite point with assailants of Hegelianism. This is partly owing to Hegel's own phraseology and the appearance of *a priori* deduction which he gives to everything he touches; partly to the misconceptions of others as to what his system, or philosophy in general, could yield them. Hegel's phrases are that the Idea "releases itself freely unto the externality of space and time; it resolves freely to release itself as nature out of itself". Now there need be no hesitation in saying, with Schelling, that these metaphorical phrases merely indicate a leap across "the ugly broad ditch" which dialectic is powerless to bridge. But it must be added that the ditch exists only if we suppose the system of logical conceptions existing factually as the *prius* of Nature. In reality the necessity for such a transition is purely factitious, because the notions never existed otherwise than in Nature and Spirit. They are the Absolute, because they form the common basis of Nature and Spirit, and their treatment apart was a merely ideal separation. They were got by abstraction from the concrete, not out of the air by any *a priori* method. We owe, therefore, no apology for a return to the reality from which we took them.

In the discussion of Nature a good deal of metaphorical language is used both by Hegel and by his followers. According to the phraseology given above, nature is usually described as objective thought—as the otherness or externalisation of thought. Hegel, after Schelling, speaks of nature as a petrified intelligence; and Dr. Stirling says that Hegel has demonstrated "all to be but a concretion of the notion".[2] Now in speaking of nature as the "other" or *alter ego* of thought there is implied a fundamental sameness with, at the same time, a difference. And a critic in hearing such phrases will doubtless ask, wherein consists the *alterity* of the Ego, what constitutes the "petrifaction," or "concretion," or "materiature," as Hegel is fond of calling it? In what do conceptions, viewed as in nature, differ from the same conceptions, viewed in the pure element of thought? The reply of the Hegelian will probably be that an otherness of some sort is implied in the very possibility of knowledge. Self-consciousness is the *datum* of philosophy as well as its goal; and it could not come to pass without the contrast of subject and object. But the difference is merely formal, while the identity is real; Aristotle, too, in ancient philosophy, recognised the truth that the thinker and his thoughts are in some sense the

[1] Hegel, *Werke* VII., i., 32. [2] *Secret of Hegel*, I. 177.

same. No reason can be given, however, why this objectivity should take the form of the perception of a world in space. That is simply a fact to be accepted; and Hegel contents himself with showing that the attitude of intelligence towards this world is not ultimately different from the relation of a thinker to thoughts, which, by decipherment, he makes his own. The limpid clearness of this relation is interfered with in immediate perception by the character of the space-relations, which form the fundamental determination of nature. Space seems to introduce a pure separateness of things from thought; and to it is due the appearance of petrifaction or concretion just referred to. But when it is recognised as being in reality the first intelligible bond by which things are connected one with another, it becomes the evidence of thought instead of its contradiction, and the apparent alienness of the world to intelligence disappears.

We must be contented with a general position here. Philosophy gives us only the ultimate terms of the explanation of nature. By showing the identity of the fundamental relations of nature with the conceptions of thought, she establishes the ultimate explicability of the whole in terms of these conceptions. This is, for Hegel, the identity of being and thought; and his Idealism consists in his maintaining this identity as a necessary belief of reason, any other belief being in the end reducible to a self-contradiction. For the rest, it is not necessary to hold that Hegel's account exhausts the fact of perception. His account of nature is virtually an account of it in its spatial relations: of the qualitative aspect of nature revealed by the senses nothing is said. The mention of this may be resented as a relapse into an empirical way of thinking, seeing that these qualities depend upon our sensuous or animal nature. But then it must be remembered that the very fact of this animal existence is the point left unexplained.

If we press phrases, which seem to assert that Nature is, in any literal sense, nothing more than "the other" of the thought-determinations of the *Logic*, we are sure to end in paying ourselves with words. The same categories appear, it is true, but displaced, re-arranged and repeated in an infinite variety of ways, endlessly tangled. Of this displacement and of the multitude of particular relations to which it gives rise, and which constitute for us the face of nature, it is well to recognise that no account is given by Hegel, or, indeed, can be given by philosophy. Hegel himself probably took a more common-sense view of his position than he generally gets credit for. In reference to the phrase describing nature as a petrified intelligence, he explained, that, when more exactly expressed, it meant, as the ancients said, that νοῦς ruled the world, or that intelligence was in the

world as its immanent principle—the universal of nature, as the species is the universal of a particular animal.

It is impossible to dwell at length upon the Philosophy of Nature here. It may substantially be summed up in Hegel's own statement:—"Nature is to be regarded as a system of grades, the one of which proceeds necessarily from the other, and constitutes its proximate 'truth': not, however, in such a way that the one is *actually* produced out of the other, but in the inner idea which is the ground of nature."[1] Philosophy traces the process of Nature towards Spirit in Mechanics, Physics and Organics. It will be seen from this that Hegelianism is quite neutral as regards a development theory like Darwinism. That is matter for the scientists, and to be decided on scientific evidence. What philosophy has to do with is development in the idea; an organism represents a higher and more complex stage of the Idea than an inorganic formation, and the human organism a higher stage than any of its pre-human ancestors; and that whether the transition from one to the other was ever made in time or not. Even science can never show us the actual transition—can never, as Dr. Stirling vividly puts it, catch Nature half in and half out. Philosophy with its principle of continuity not only allows but demands that the gulf between species and species be always more perfectly bridged over by intermediate forms. But the completed stages are all that we can ever see, be the difference never so infinitesimal; and to philosophy these stages are all stages of the Idea (represent ideas), and as such only have they an existence for thought.

Unless on a very external notion of means and end, teleology is not banished when it is shown that a series of actual transitions has been brought about by mechanical necessity in the shape of adaptation to environment and the struggle for existence. Means can only be judged of in relation to the end actually attained. Men of science are fond of insisting on the extreme naturalness of the means in question; but their extreme naturalness lies in nothing but their perfect fitness to ensure the end, which, as matter of fact, is realised by them. The forms that result are rational; nature is a system of rational forms, and culminates in the existence of rational beings. If all this be admitted in detail, then it is useless to deny Hegel's general position that the development in nature is the work and expression of immanent reason. We may apply to the position words which Kant uses in a narrower sense of teleology:—"It converts the systematic unity of nature in relation to the idea of a supreme Intelligence into a principle of universal appli-

[1] Hegel, *Werke* VII., i, 32.

cation."[1] But, as already indicated, it does not (or, at least, ought not to) attempt an *a priori* determination of particular connexions.

Hegel shares to some extent with the other Nature-philosophers the blame of having nursed extravagant expectations as to the powers of philosophy in dealing with nature. But in general he recognises the limitation of its province in terms sufficiently ample. Many, however, will regard his way of putting it as partaking of disingenuousness. It is the impotence of nature to hold fast the idea that sets limits to philosophy—not the impotence of the philosopher to match the subtlety of nature. Hegel is fond of expressing his contempt for nature as the realm of mere contingency. The chequered scene it presents is not to be rated higher than the equally casual fancies of the mind that surrenders itself to its own caprices. It is most unseemly, therefore, to desire that the Notion should take account of such petty contingencies. Now it is quite true, as he maintains, that the infinite particulars of nature serve none of the higher interests of reason, and that, consequently, neither philosophy nor reason is concerned to show that they must have been *so* and not otherwise. The relative position of the different parts of a landscape, the exact spot occupied by a rock in ocean, or, to take his own example, the continually changing configuration and grouping of the clouds are things in the strictest sense contingent or indifferent to reason. They are all strictly determined in a chain of necessity, but it would, as he says, be an empty trifling and the very pedantry of precision to follow out the links in each case. Still when we hear the surface of nature spoken of as that in which chance ranges unchecked, that simply means that philosophy takes no notice of individuals, as regards the time, place, and manner of their existence, and that all actual occurrence is beyond its sphere. Philosophy concerns itself only with the Idea of which the individuals are the bearers. While allowing, therefore, a certain justification to the category of contingency, as marking out by contrast the sphere in which philosophy is at home, we reject the appearance of knowledge which Hegel manages to convey by its means.

The same is true when we pass to the Philosophy of Spirit. The general form of personality is deducible, but not a living human spirit with its individual thoughts, feelings and actions. We deal, in Hegel's remarkable phrase, only with the universal individual;[2] the individual in the individual remains, as Schell-

[1] Kant, *Werke* III., 63.

[2] "Das allgemeine Individuum"—in the *Phänomenologie*, *Werke* II. 22.

ing says, the incomprehensible and inexplicable point in philosophy.[1] So also with history. Philosophy recognises history as the process of the Absolute Spirit or the record of the realisation of the idea of Freedom. But the philosophy of history can construct no individual event, and cannot exhaust the sum of contingent conditions, which made any period or epoch exactly what it was. There the historian proper has his province. Philosophy recognises only the thread of purpose that runs through this maze of particulars; and even the explicit form of that purpose it does not bring with it to the facts, but learns with ever greater fulness from conversance with the actual course of events. True historical insight is born of this union of the universal and particular. The two sides are perpetually modifying one another in the process of research, but the one is impossible without the other. Facts are infinite multiplicity, and cannot be studied or known at all unless we have some scheme of arrangement, be it ever so meagre. They are blind, we may say, without the universal of the mind, that introduces order into their chaos. But the universal, on the other hand, is an abstract and empty schema, the mode of whose realisation we cannot predict, till we actually see it in facts. The philosophic idea of history is, therefore, according to the way we look at it, an inevitable presupposition or the result of the ripest induction. There has been much talk about the arbitrary construction of history on the part of Hegel and his followers. As matter of fact, this may or may not have been the case; but it certainly is not involved in his philosophy. The philosopher comes to history with the same presupposition with which the man of science approaches nature—*viz.*, that it is rational. He *construes* history, as the other construes nature, under this presupposition; but both are equally dependent upon experience for their materials and for the discovery of the particular way in which reason has realised itself.

If this criticism be extended to the Absolute Spirit, it will be found that it is only by taking up the concrete life of the world and of history into the formula of the Idea that Hegel com-

[1] The admissions of Fichte and Schelling on this point are worth quoting. Fichte says:—"My existence as *man* among possible rational beings, and as this *definite* person among men appears as the absolutely contingent, and supplies the merely empirical element in our knowledge. Here all deduction has an end." (*Werke*, I. 489.) The passage from Schelling from which I have quoted runs thus:—"My limitation in general is explicable from the infinite tendency of the Ego to become object to itself; but limitation in general leaves the determinate limitation perfectly free, and yet both have their origin in one and the same act. . . . The latter is, therefore, the incomprehensible and inexplicable in philosophy." (*System des transcendentalen Idealismus.*)

municates to the latter a real value and content. This is admitted when the realisation of Spirit is seen not only in philosophy, in the element of thought, but also in religion, in the element of figurate conception, and in art, or immediate perception, as well as in the institutions and life of the rational state and in universal history. Philosophy is the supreme form, and comprehends all the others, in the sense of understanding their nature. But it could not do so, unless the knowing subject were more than a mere thinker. A pure intelligence could not see itself realised in art. "Art," says Hegel, "is the presentation and self-satisfaction of the Absolute in the form of the sensuous phenomenon."[1] But the self-satisfaction of the Absolute is our own feeling of aesthetic satisfaction, and that is the result of our sensuous-intellectual nature. Just as little could a pure intelligence enter into the life of the religious consciousness. The nature of man, in short, is not exhausted in pure thought; and if so, neither is the nature of the Absolute, nor the methods by which we may approach it. Notions, though the skeleton of reality, are no more than the skeleton; we have to clothe them with the life of our many-sided nature before our account of reality is complete. The office of philosophy is to show the movement of thought in all forms of life —to express them as it were in terms of thought. But the transcript of philosophy is only "grey in grey;" it has meaning only to those who have known the flesh and blood of reality.[2]

In the notion of the Absolute Spirit we have reached the end of our long chart and way. It is the notion of a Self which yet is realised in no individual self in experience. It is the first and third of Kant's regulative Ideas reduced to unity, with the second as the bond of their union. Kant, like Descartes, found his centre in the knowing Self. But Kant did not, like Descartes, separate the Ego from its "essence"—the organism of knowledge. The "being whose essence consists in thinking" became, in Descartes' hands a merely individual substance; and, as such, it was swept away in Spinozism by the flood of the divine life. The Synthetic Unity of Kant proved able to bear the strain in virtue of the great principle, which it implied, of the unconditionedness of thought. And now for the first time

[1] Hegel, *apud* Haym, *Hegel und seine Zeit*, p. 441.

[2] The following sentence of Hegel's sounds like a half-unwilling acknowledgment of this. He is speaking of religion and says:—"I do not deny that cognition may be one-sided, and that there may belong to religion besides, as essential elements, feeling, intuition, faith; just as to God there may belong more than the notion of him as intelligising and intelligised." *Apud* Haym, p. 403.

it became possible to unite the Self and God without the annihilation of either term.

That the threefold idea of Hegel is not merely regulative, it is hardly necessary to say: that is his continual contention against Kant and Fichte. The world cannot hang on a mere "Sollen". Metaphysic knows no ought-to-be that is not already realised. Final and efficient cause, real and ideal, are identical in a self-realising whole; an ideal which is in things, and not merely in our heads, is necessarily real at every moment. Yet we are sure to be assailed here with clamorous questions as to 'the existence of God' and the place assigned to Him in the system. To these the answer must be, that, for a philosopher of Hegel's stamp, there can be no greater absurdity than to deny the existence of God. All things are real only as they exist in God, and all philosophy is an attempt to define more exactly what God is. But existence is a crude category, which may mean almost anything, and which, to the unphilosophic mind, always means something which it can lay hold of, something which has its analogy in the limited circle of the person's own ideas and experience. When the question is pressed in this sense, we can only reply with Schelling:—"God never exists, if by existence is meant what we see in the objective world. . . . but He reveals himself continually".

The language used may appear mystic to the man who has never asked himself the ultimate speculative question. But, indeed, philosophy, as conceived by Hegel, was not intended to give a transcript, or at best a systematisation, of the so-called 'facts' of ordinary consciousness. It aimed at giving the inner essence, or ultimate truth, of all appearance. Hence his recurring assertion that the content of philosophy and of religion is the same, only the element in which it is recognised being different. Both aim at a synthesis of existence; both, therefore, deal with an object which cannot be described or verified like an object of experience. "Every philosophy is essentially Idealism, and agrees in this with religion. . . . Its Idealism consists simply in the fact that it does not look upon the finite as truly existent."[1] Every philosophy is, indeed, a poem, if measured against the prose of every-day life. It presents things not exactly as they meet us there, but as a complete, harmonious whole. Even Dr. Stirling confesses that the system of Hegel is to him "in a certain sense only a poem".[2] But like every great poem it does not deceive; it gives a higher truth. It clings to ordinary reality, till it has extracted from it its inmost essence, and that is what it presents us with.

[1] Hegel, *Werke* III. 171. [2] *Journal of Speculative Philosophy*, XIII. 38.

But I have failed of my purpose, if it has not been made plain that Hegelianism, in spite of its soaring synthesis, speaks essentially the words of soberness. It puts an end to transcendent speculation, far more effectually than Kant, by showing that all the objects of such speculation are immanent in the world that now is. In fact no philosophy is so well-fitted as Hegelianism to withdraw men from fruitless questions, and to make them see the solution of all problems in the faithful work of their own sphere. It is hampered, moreover, by no presuppositions as to the empirical existence and course of things; it is ready, accordingly, to accept and rationalise any theory which science and history may establish. Idealism accepts all that physiology has to say about the dependence of thought on the organism, and is not discomfited by the most materialistic statement of the facts. It admits as a matter of course the empirical derivation of all our conscious life from feeling or sensation. "Everything is present in feeling," says Hegel, "and if any one likes to express himself so, everything that emerges in the consciousness of spirit and of reason has its source and origin in feeling."[1] The gradual building up of morality on the basis of our instincts and impulses, and the dependence of subjective morality upon the customs and institutions of the community and state are an integral part of Hegelian ethics. The Philosophy of Religion exhibits the development of religious thought from the fetish-worship and magical rites of the savage.

But materialists in cosmology and sensationalists in psychology think they have explained a rational universe and the human consciousness from that which is neither rational nor conscious. The evolutionist in morals and the naturalist in religion imagine that they have deduced morality and religion from non-moral and non-religious conditions. They seem to think that, in explaining the origin of a thing, they have explained away the thing itself. Hence the deleterious influence of such views, when spread among the unreflecting. The special merit of Hegelianism is that it sets all these results in their true light, and shows that they do not imperil the divinity of reason that hedges about our lives. "Source and origin," Hegel adds to the passage last quoted, "mean no more than the first and baldest form in which a thing appears." Nothing is explained by being merely thrown back in time. A history of phenomena is no metaphysic of the timeless presuppositions of that history.

Hegelianism is the conscious attempt to give such a metaphysic, and so to supply a perennial want of the human mind. Hegel gives us formulae by which we may express the nature

[1] *Werke* VII., ii., 117. Cf. also *Ibid.*, p. 311.

of the one great Fact or Life, which, in the widest sense, we call God. Progress in philosophy means reaching a fuller form of expression for that Life. If they do not explain everything, these Hegelian formulae are yet the best we have. It depends on ourselves to fill them up. According as we use it, a formula may be a Procrustean bed to which we make existence conform by cutting off its living members; or it may be expansive enough to allow free play within itself to all forms of life. This expansiveness will, I think, be found to belong to the Hegelian formulae; and they may be accepted even by those who may hold, with Lotze, that this "bold monism" undertook far more than is possible to human powers. Hegel and Lotze are at one in "the indestructible confidence of the spirit that the world does not only exist, but that something is meant by it".[1] This is Idealism in the broad Hegelian sense, because it is the assumption that the universe exists only as the exponent of that meaning. The meaning communicates value to what would otherwise be valueless; and all true philosophy aims, like Hegelianism, at throwing into words the 'truth' or perfect meaning of the universe.

ANDREW SETH.

VI.—NOTES AND DISCUSSIONS.

ON DEFINITIONS.

A DEFINITION is a "proposition declaratory of the meaning of a word" (Mill). As to this, I believe, all logicians are agreed, as well as that the meaning which it declares and as to which it affords us information, is the Connotation of the word, not its Denotation—the Comprehension of the notion, not its Extension.

It appears, further, to be generally admitted that the information thus given must be *complete*. The adequate definition gives us not only a portion, but "the *whole* of the facts which the name involves in its signification" (Mill); "the sum of all the properties connoted by the name: it *exhausts* the meaning of the word" (Bain). Mill even goes so far as to say:—"The definition of a name . . . is the sum total of all the essential propositions which can be framed with that name for their subject. All propositions, the truth of which is implied in the name, all those which we are made aware of by merely hearing the name, are included in the definition, if complete, and may be evolved from it without the aid of any other premisses."

According to the promise of logicians, the amount of information that we may fairly expect a definition to give us as to the connotation

[1] Lotze, *Metaphysik*, p. 180.

of the word defined is, therefore, very great. But when we turn to the examples of definition given to us in the manuals, we are far from finding these expectations realised. The stock example, "Man is a rational animal," is, confessedly imperfect.[1] But take the same definition as amplified by Mill:—"Man" (or a "human being") is "a being, corporeal, animated, rational, shaped so and so". Surely, "man" means more than this. Man is also a vertebrate, a mammal, maintains approximately a certain temperature, is not omniscient, is born and dies, and possesses a host of other properties, all of which we expect to find in any object of which the word "man" is predicated.

The contrast between theory and practice appears here to be so great (and we shall find it no less in the definition of any other natural object) that, if the statements were not so very explicit, one would be tempted to suppose some misunderstanding of the theory. Either our view of the connotation of the word is too wide: or the propositions given as examples of Definition are not real or perfect definitions: or it cannot be the province of the Definition to give the whole of the connotation.

On these points I propose to say a few words.

First, as to Connotation.

Every concrete name *denotes* certain things, or feelings, or actions, &c. (real or imaginary), which constitute the class, definite or indefinite, designated by the name; and *connotes* certain properties, qualities, or attributes,[2] which everything, properly called by the name possesses.[3] The Denotation and the Connotation are, therefore, perfectly distinct, and each is, in a sense, the *meaning* of the word.[4]

Now, the Denotation of a general name is, as a rule, obviously quite

[1] Sir Wm. Hamilton, however, would appear to have considered "Man is a rational animal," an adequate definition, for he speaks of the partial concepts "rational" and "animal" as "together making up the comprehension of the total concept *man*"; and of the concept *man* as being "equivalent to *rational animal*". (*Logic*, Vol. I., pp. 143-4 and 147.)

[2] I here consider these three words as equivalent, and shall use them indiscriminately throughout this paper.

[3] It will be observed that I include *proper* names among connotative words, considering them as names with a maximum of connotation and minimum of denotation. The limits of this paper do not admit of my attempting to justify this view here.

[4] Mill limits the word "meaning" to the connotation; but I doubt whether usage bears him out in this. "Quid sit tempus," said St. Augustine in an often quoted passage, "si nemo quaerat a me, scio: si quis interroget, nescio". So, Boswell: "Then, sir, what is Poetry"? Johnson: "Why, sir, it is much easier to say what it is not. We all know what light is; but it is not easy to tell what it is." (*Life of Johnson*, year 1776.) There are numberless words, of which we know perfectly well what they denote, but have so vague a notion of what they connote that we can give no kind of account of it. Yet we believe ourselves to know what these words mean. St. Augustine and Dr. Johnson appear to me to have been in this case.

indefinite. Such a word as "animal," "flower," "man," &c., denotes a multitude of objects of whose number we have no conception. We know, with quite sufficient accuracy for ordinary purposes, what are the objects to which we are referring when we make use of the word, and have no fear of mistaking the objects denoted by the one for those denoted by the other. At the same time, we are well aware that the objects we happen to have before our minds at the time do not, or may not, comprise the whole of the objects properly denoted by the name. And not only so, but we may discover, or may be informed, that certain objects or species which we did not believe to belong to the class so denoted, really do belong to it; or that others, which we had mentally included, and to which we should have applied the name, do not really possess all the requisite attributes, and must not be called by the name.

Our knowledge of the denotative meaning of a word (however familiar) may thus be capable of increase, modification, or rectification. We may be taught.

So with the Connotation. On the connotative side a name means, *to us*, all those qualities common to the class named *with which we are acquainted;*—all those properties that are said to be "involved in our idea" of the thing named. These are the properties that we ascribe to an object when we call it by the name.

But, just as the word "man," for example, denotes every creature, or class of creatures, having the attributes of humanity, whether we know him or not, so does the word properly connote the *whole* of the properties common to the class, whether we know them or not.

Many of the facts known to physiologists and anatomists about the constitution of man's brain, for example, are not involved in most men's idea of the brain: the possession of a brain precisely so constituted does not, therefore, form any part of their meaning of the word "man". Yet surely this is properly connoted by the word.

Suppose an animal to be discovered, in all other respects resembling a man, but differing from him in certain important particulars of this kind. What would happen? The scientific authorities would have to decide whether the newly found animal belonged to the class "man," in spite of these differences, or not. If the decision were in the affirmative, physiologists would have to teach in future that the properties in question do not belong to the genus "man," but only to some species; and the word "man" would no longer connote the possession of these properties; but, if the decision were in the negative, the word would still connote the possession of those properties, and definitions of the word would in future have to be so framed as to mention one or other of these particular properties and so exclude the newly-discovered, non-human animal.

While, then, if the above is correct, the name properly connotes all the properties common to the whole class—some of them known and, probably, an indefinite number still unknown—its connotation (meaning) to different persons may be very different. To one man a name will suggest many more properties than to another; and our know-

ledge of the connotation of a name, as of its denotation, may thus be increased, modified, or rectified. In this respect also we may be taught.

We have thus the Denotation of the concrete name on the one side and its Connotation on the other, occupying perfectly analogous positions. Given the Connotation—the Denotation is all the objects that possess the whole of the properties so connoted. Given the Denotation—the Connotation is the whole of the properties possessed in common by all the objects so denoted. To each Connotation thus corresponds one and only one Denotation; to each Denotation one and only one Connotation; and each may, therefore, be determined by means of the other.

Such is the real, full Connotation and Denotation of the concrete name:—or, in order to avoid the appearance of unnecessary paradox, perhaps we should rather say, such would be the Connotation and Denotation *if our knowledge were perfect:* for it must be admitted that knowledge of the full meaning of our words in this sense is a goal from which we are far distant, there being probably hardly any classes (if, indeed, there be any at all) of which even the best informed already know either all the qualities or all the constituents, so that we may say, with Mill (although using his words in a somewhat different sense from what he intended), that "the meaning of a term actually in use . . is an unknown quantity to be sought".

I shall call this ideal meaning, the *theoretical* Connotation and Denotation of a word, as distinguished from the meaning it bears to any individual now using it. The actual or practical meaning of the word—in which it denotes to the user or hearer such members of the class as he knows, or supposes, to exist (actually or potentially, in the past, present, or future), and connotes such properties as he knows, or supposes, them to possess in common—may, as we have seen, vary in every degree, from the knowledge of the specialist to the vague conception of the most ignorant; in every case, however, generally falling far short of the theoretical meaning above spoken of.[1]

Now, if this is so, and if the perfect Definition requires the enumeration of all the properties connoted by the word, it is evident that we can have no perfect definition, according to the theoretical connotation, until the whole of the properties common to the class have been discovered;—that until our knowledge of the object is perfect, we must be content with provisional definitions. But even if we confine ourselves to the practical connotation, the recitation of all the known properties—which would really be nearly all that we know about the class—would be a long process, and would in many cases require a whole treatise to itself.[2]

[1] Such theoretical meaning must, I presume, be that supposed, by those who look upon Logic as "formulating the most general laws of correlation among existences considered as objective," to attach to the words by which they describe these objective existences.

[2] "A hundred generations," says Mill (*Logic*, Book I., Chap. vii., § 4), "have not exhausted the common properties of animals or of plants, of

Now as, theoretically, each connotation corresponds to one, and only one, denotation, and each denotation to one, and only one, connotation, no change can be made in either without a corresponding inverse change in the other. Theoretically we might thus have, passing, as it were, through each concrete name, a whole series of names varying, in unbroken succession, from the maximum of denotation and minimum of connotation—a class based on the possession of only one common property—to the minimum of denotation and maximum of connotation—a class based on the possession of so many properties that there is only one object that can properly be called by the name—a singular or proper name.

Practically, indeed, this is not so:—first, because, even if we could form all these classes, we should have no practical requirement for so many names[1]; and, secondly, because we cannot, in fact, form all these classes. In the first place, as already observed, our knowledge is not perfect, and this imperfection of our knowledge would occasion numerous gaps in the series. In the second place, so far as our means of observation extend, both properties and objects appear to go in groups.[2] Whether or not the doctrine of Natural Kinds is strictly true, for all practical purposes each class usually differs from that which appears to stand next to it in a great many qualities, while the apparently slightest change in the number of common properties usually makes a great difference in the number of the members of the class. Were we, therefore, to make our series as complete as we logically could, many of our class-names would have only a potential denotation: the classes would be empty: we should find no existing objects to put into them.

Practically, therefore, when we find a number of objects agreeing in certain properties, we shall generally find them agreeing in a good many more; and conversely, when we find certain properties possessed in common by certain objects, we shall generally find them possessed also by a good many more objects.

Now, it is here that the *Definition* appears to me to step in. To specify the members of a class by enumerating them is, in most cases, obviously impossible. The question, What are the constituents of the class? can be answered only by naming their qualification for

sulphur or of phosphorus." Now, whether or not the common properties, that the hundred generations have *not* discovered, can be considered to be properly connoted by the names of those objects, there is no such question as to those that they have discovered. The net result of the investigations of a hundred generations can hardly be expected to be capable of being compressed within the limits of a single proposition.

[1] By "names" we do not, however, mean only single words. By combination of words we can name almost any class we want.

[2] If we consider, as I think we must, not only independent, but also dependent properties to be connoted, it is obvious that these properties must often go in groups: for the addition of any one quality will immediately add the whole of the qualities that depend upon its conjunction with the rest.

membership, *i.e.*, by stating properties all possessed by each of them, and by them alone.

That this should be done correctly is, evidently, of the first importance, and I cannot help thinking that this is the real province of the Definition. It singles out so many of the properties connoted by the word as, possessed by every member of the class, are not all possessed by any object out of the class, so that the possession of the whole of the properties recited in the definition is both a condition and a test of membership.

Now, inasmuch as, for all practical purposes, the properties go in groups, it is obvious that, for this purpose at least, the definition need not recite the whole of the properties common to the class—the whole connotation of the name—while, on the other hand, the smaller the number of properties named, the easier and more convenient will it be to apply the definition as a test.[1] Provided, therefore, that the test it affords is perfect, it will be a better definition in proportion to the *smallness* of the number of the properties that it recites.[2]

From this point of view, therefore, the definition appears a thing of simply practical utility. It is an instrument—as it were, a *measure*—by the application of which we can see whether any particular object rightly belongs to the class—is properly called by the name—or not. The information it affords is, thus, as to the Denotation rather than the Connotation, and it is no part of its duty to give the whole connotation of the name.

But observe: Although the definition recites only a few of the properties connoted by the name, no object is properly called by the name that does not possess the *whole* of the properties connoted by it. The use of the definition as a test, therefore, implies and assumes that every object that possesses the properties named in the definition will *also* possess *the whole of the properties common to the class.* To this extent, at least, the definition assumes the Uniformity of Nature.

The true definition, although reciting only a portion of the connotation of the name, is thus, in a sense, co-extensive, not only with the Denotation, but also with the Connotation of the name.

[1] It is, of course, here assumed that the properties are equally obvious or easy of discovery. Practically it may be easier to apply a definition which recites $m + n$ properties easy to discover than one that recites only m properties difficult to discover, and the former definition will then *(ceteris paribus)* be the better.

[2] The best definition will therefore, generally be the ordinary one by means of genus and differentia. If our definition of the genus is a perfect one, *i.e.*, if it recites the smallest number of properties connoted by the genus name that will suffice perfectly to characterise the genus, this, *plus* the differentia, must be the smallest number that will properly characterise the species to be defined. But this is to us a real definition on the supposition only that we already have a full definition of the genus. If not, we must again define the genus in the same way, and so on until we arrive at the summum genus, whose characteristic property together with the differentiæ of the successive species will then be the whole of the properties required to characterise (define) the name to be defined.

The properties recited in the definition, whenever all found united, always belong to an object *denoted* by the name, and are always accompanied by all the other properties *connoted* by the name.

Every object that possesses the whole of the properties named in the definition is *denoted* by the name.

Every property that is always found whenever the whole of the properties named in the definition are found, is *connoted* by the name.

So far we have dealt only with *concrete* names. The case of *abstract* names need not here detain us long.

By an *abstract* name I mean a name *denoting* the property, or complex of properties, connoted by a concrete name. Thus "whiteness" (abstract) denotes the properties possessed in common by the objects called "white" (concrete), and connoted by the latter term: "humanity" (abstract) denotes the complex of properties connoted by the concrete name "man" (or "human"), and so forth.

Every concrete name may, therefore, have a corresponding abstract name denoting the properties which it (the concrete) connotes: and, conversely, to every abstract corresponds a concrete, connoting the properties which the abstract denotes.[1]

It is true that the denotation of the abstract name and the denotation of the concrete name are not precisely analogous. "Man" denotes any individual man: "honest" denotes every single object of which honesty can be predicated; but "humanity" does not denote the human form by itself, nor possession of reason by itself, nor mortality by itself, but only the entire complex of properties which are possessed by every being that can properly be called a man. And so of all other abstract words. It might, therefore, perhaps be more proper to apply some other word than "denote," such as "designate," for example, to the meaning of the abstract word. But what we call it is comparatively immaterial. The important point to observe here is, that the meaning of the abstract word is of one kind only, not of two, like that of the concrete name; and that the meaning is confined wholly to the connotative side, being, in fact, the *whole* connotation, of the relative concrete.

This being so, and Definition being, if my view is correct, the fixing of one meaning (the denotative) in terms of the other, it follows that, strictly speaking, *an abstract name can have no definition.*

We are here, apparently, met by the objection that innumerable abstract names *have been* defined. I think, however, that on closer examination it will be found that these definitions of abstracts are in reality only a selection of such of the properties denoted by the abstract name as are always accompanied by all the rest, and conse-

[1] We do not, as a rule, have or require abstracts corresponding to every grade of concrete name. Thus there are no abstracts corresponding to *proper* names. But I do not see why these should not be formed if we had any occasion for them.

quently serve to define the relative concrete rather than the abstract name itself. The objection is, therefore, more apparent than real. Thus "Life," for example, is an abstraction, and is defined by Mr. Spencer: "the continuous adjustment of internal relations to external relations". Now, what does this mean but that every being that continually adjusts its internal relations to external relations is what we call a "living" being, and will be found to have all the other properties denoted by "life"? And how can we see whether or not it is a proper definition otherwise than by comparing living beings with non-living beings, and seeing that the above-named properties are always present in the former and absent in the latter? The definition appears, therefore, to be in reality a definition of "living" (beings) rather than of the abstract "life". And the same will, I think, be found to be the case with every other definition of a really abstract term.

In order to avoid any possible misconception it may, perhaps, not be out of place still to observe here that, owing to 'transitive' variation of meaning, an abstract and a concrete corresponding in form do not always quite correspond in meaning. Although, therefore, the meaning of the abstract term is precisely the connotation of its relative concrete, and the inquiry into either may be substituted for that into the other—What are the common properties of things beautiful? may, *e.g.*, and often with advantage, be substituted for the abstract question "What is beauty?"—before making such a substitution we must be careful to see that we really have the right pair. Thus, for example, "conscience" and "conscientious" do not correspond, and we should not get a true account of the meaning of the word "conscience" by inquiring what are the common properties of the "conscientious". This is one of the great difficulties in the way of the substitution of concrete for abstract inquiries, a process by which, if it could be universally adopted, much mystification might be avoided.

The view of Definition to which the foregoing considerations would lead us is, therefore, as follows:

(1) Definition is of *concrete* terms only; every so called definition of an abstract term being, in reality, a definition of the relative concrete.

(2) Although the definition recites a portion of the connotation of the term, the part of the meaning of the term which it determines is really not the connotative but the denotative, it being, in fact, *an expression for the denotation in terms of the connotation.*[1]

[1] The opposite process of determining the connotation by means of a portion of the denotation, although not dignified with a position in Logic like that held by the Definition, is familiar enough in practice, being, indeed, that by which all children learn to speak and to understand language. If, in ordinary conversation, I ask, "What is so and so?" the probability is strongly against my receiving anything like a definition in reply. Ordinarily a thing called by the name will be in some way pointed out to me, and I shall be left to find out the connotative meaning of the

(3) That, so far from its being a part of the duty of a good definition to give the whole connotation of the name, the enumeration of more of the properties connoted than are required for accurately determining the denotation, is a positive fault. *Ceteris paribus*, that is the best definition which mentions *the fewest* of the properties connoted by the name.

This view I beg to submit to the consideration of the reader.

Whether or not it is *all* that it should do, undoubtedly every good definition does determine the denotation in the manner indicated ;[1] and, as regards point (3), every definition that enumerated a long string of properties would certainly be pronounced unworkable.[2]

Want of space has obliged me to pass very rapidly over the above, without pausing to discuss objections that may be urged against various portions. On two points which are sure to strike most readers I may, however, be allowed to say a few words before closing. (1) I have not said that the properties enumerated in the definition must be *independent ;* and (2) I may appear to have lost sight of the distinction between definitions and *descriptions.*

As regards the independence of the properties, I have not, indeed, mentioned this, but it necessarily follows from the stipulation that the definition is not to enumerate more properties than are necessary. An object that possesses any property, must, of course, possess also all the properties derived from this, and to mention them in the definition would, therefore, be worse than useless.

On the other hand, I cannot at all agree with those logicians who

word from the specimen. As a general rule this process is, it is true, not quite pure in ordinary conversation. *E.g.*, "What are geraniums ?" "Those red flowers before the window." Here a genus, "red flowers," is given by word of mouth and it is only the differentiæ that I am left to find out for myself from the specimens. By a suitable choice of specimens and accurate examination, the knowledge of the connotation so given may be made as complete as we please.

[1] "Man is a rational animal" proves to be a bad definition even from this point of view ; for a man may lose his reason without ceasing to be a man.

[2] Prof. Jevons, in mentioning Dr. Thomson's "Immediate Inference by the sum of several Predicates," and his example : "Copper is a metal—of a red colour—and disagreeable smell—and taste—all the preparations of which are poisonous—which is highly malleable—ductile—and tenacious —with a spec. gravity of about 8·83," observes that "Dr. Thomson is mistaken in supposing that we obtain in this manner a *definition* of copper. Strictly speaking, the above is only a description of copper. . . . It may be shown that no amount of ordinary description can be equivalent to a definition of any substance" *(Princ. of Science*, ch. v., pp. 61-2). I should say that such an enumeration of properties, if full and correct, *is* a definition, but a bad and unworkable one ; for it gives us much more than is required for the purposes of a definition. The above process, properly and fully carried out, would give us Mill's ideal of the definition of a concrete name : "the enumeration of the attributes which it connotes".

consider that derived properties are not connoted by the name: that it is only "all those attributes that cannot be derived (or inferred) from others" that "are to be regarded provisionally as an assemblage of primary qualities or, in logical language, the connotation of the term".

Surely there is something incongruous in saying that, if we define a triangle by the number of its sides, the word triangle does not connote having three angles: or, if we define it by the number of its angles, then it does not connote having three sides. Yet either of these can be inferred from the other, and they cannot, therefore, both be primary in the above sense. Again, we might define a "plane triangle" as "a rectilineal figure, the sum of whose internal angles is equal to two right angles,"[1] in which case having three sides and having three angles would both be derived qualities of the triangle, "requiring to be proved of it". These properties are all mutually dependent, and surely it cannot make any difference in the connotation of the term whether we choose to look on the one or the other as the primary. Does "circle" not connote "of the second degree," and "having a greater area in proportion to its circumference than any other plane figure"? Does "angle of 30°" not connote "having a sine $= \frac{1}{2}$"? Surely they do to the mathematician! These are "constituents of the notions," which he cannot by any means get rid of.[2]

It may, perhaps, be worth while here to remind the reader that the very possibility of thus deriving or inferring one property from another requires a considerable amount of assumption or knowledge as to the constitution of things. Thus we cannot, for example, prove that the sum of the internal angles of a rectilineal triangle is equal to two right angles without the help of the axioms of geometry. Mill's requirement of a good definition, that we should be able to evolve from it "*without the aid of any other premiss*" all the essential propositions that can be framed with the name defined for their subject, would therefore oblige us either to take the words "essential proposition" in a very narrow sense or else to include in most definitions many of the laws of nature. Is it or is it not essential to a

[1] This Prof. Fowler mentions as a case of an attribute which "is *not connoted* by the term 'plane triangle,' but requires to be proved of it" (p. 38). Of course a definition by the number of sides or angles is much more convenient, and therefore, generally, far better than one by the sum of the angles.

[2] Prof. Bain appears to go to the opposite extreme when he says (*Logic*, Vol. I., p. 70), that the predication of newly discovered properties is *real* predication only on their first announcement and is merely verbal ever after. True, the word oxygen now connotes being magnetic to him who knows of this property; but surely that it is magnetic is just as real a fact of the thing called oxygen now as it was when it was first discovered, and no amount of knowledge of the fact can make it less so. So "mortality" is connoted by "man": but "man is mortal" is more than a mere verbal proposition, as every man finds in due time.

rectilineal triangle to have the sum of its internal angles equal to two right angles? Inasmuch as, provided that the axioms of geometry are true, no rectilineal triangle can have the sum of its internal angles equal to anything else, and no rectilineal figure that has the sum of its internal angles equal to two right angles can be anything but a triangle, I do not see how it is possible to answer this question otherwise than in the affirmative.

The other question as to my having apparently overlooked this distinction between Definition and Description, has already been partly answered in the foregoing. As I do not admit any fundamental distinction between primary and derived qualities, I cannot, of course, admit as fundamental the difference between Definitions and Descriptions so far as founded on that distinction. On the contrary, I look upon every real determination of the denotation of a term by means of any part of its connotation, as a real definition—although of course not all such definitions will be equally good or serviceable. On the other hand, we often do distinguish things, or classes of things, from others by means of qualities or accidents which form no part of the connotation of their names: and such propositions should undoubtedly be distinguished from definitions. If, for example, when asked, "Who is the owner of this house?" I reply, "The man in a white coat sitting on that bench; and a very disagreeable fellow he is," I have distinguished the individual in question from all others, and probably much more to the purpose than if, guided by Prof. Bain's definition of "Property,"[1] I "define" him as "the man who, having either acquired the house by his own labour, or obtained it by free gift or by fair agreement from those that have so acquired it, has the right of disposing of it". But in the former case I have done it without reference to connotation. It certainly forms no part of the meaning of the term "owner of this house" to be occupying a certain seat or to be personally distasteful to me, and the man in question will not forfeit his right to the name by rising from the bench or by proving to me that I wronged him and that he is exceptionally pleasant. Between such an account and a definition the difference is fundamental, and the former may very well be called a description.[2] In common language, however, I believe the word "description" is quite as often used of cases in which the object described is hardly, if at all, distinguished from others. Thus, if I say of a man that he is "a blustering fellow with a red face and brown whiskers, who generally wears a shooting coat and grey trousers," I shall be held to have described him, although the description will suit countless others quite as well as the man it is meant for.

[1] *Logic*, Vol. II., p. 166.

[2] Prof. Bain apparently considers a description by means of distinctive accidents to be a definition, although an imperfect one: *e.g.*, of "diamond," that "it is, quantity for quantity, the most precious substance in nature" (*Log.*, Vol. I., p. 72). This is clearly not connoted by "diamond," for no fall in their value would affect their right to the name.

Throughout the foregoing pages I have spoken of the connotation of a name as comprising the whole of the properties common to the class named, and this is, indeed, one of the cardinal points on which the whole of the above turns; but, although I am persuaded that this is the correct view, I must not close these remarks without adverting to a difficulty out of which I must admit that I do not, at present, see my way. I mean the difficulty of finding a criterion for distinguishing between the property which is connoted and the accident which is not connoted by the name. It often happens that, so far as our experience reaches, an accident always accompanies the properties of an object, and in many cases some quite trivial accident is precisely what rises most prominently before the mind when we think of the object. If, for example, anybody always shudders when he sees a black beetle, the thought of a black beetle will suggest the feeling of disgust and the involuntary shudder as strongly as, if not more so than, the elements involved in his idea of the creature. Moreover, this effect is produced by any individual of the whole species. *Every* black beetle will make him shudder if he sees it; yet this fact is not connoted, even to him, by the name, and he knows that a black beetle would still be a black beetle if he were to get over his weakness. Why is this?

This difficulty is not likely to trouble us in practice. There are cases in which it may be difficult to decide whether what appears to be a property is so in reality, but generally there is little room for doubt. Gold is an object of desire to men; diamond is "quantity for quantity the most valuable substance in nature"[1]; Switzerland is a very favourite resort for the English tourist: yet everybody knows that gold and diamonds would still be gold and diamonds though they were to become so common that nobody cared to have them, and that Switzerland would still be Switzerland though never another Englishman were to climb one of its mountains. What is really the distinction?

The property, quality, or attribute is, of course, of the essence of the thing: the accident is not. But this does not help us, for it is only saying again, in other words, that the one is and the other is not connoted by the name.

One feels tempted to say that by the attribute of a thing we mean, not the way in which it affects certain men and under special circumstances, but the way in which it affects all men at all times: or that we mean those modes of affecting us in which the greater part is furnished, not by the men perceiving or using it, but by the object itself. But such explanations are only very transparent cloaks to our ignorance or attempts to explain *ignotum per ignotius*. How can we know how a thing affects all men at all times? How can we even know how it affects anybody but ourselves? Moreover, many

[1] Prof. Bain certainly cannot mean that this circumstance is connoted by the word "diamond"; but his language is not quite clear on this point. See his *Logic*, Vol. I., pp. 72-3.

undoubted properties or attributes can be perceived only by certain men under special circumstances, *e.g.*, by trained observers with all the appliances of their laboratories. And to determine how much of an act of consciousness is contributed by the objective and how much by the subjective elements involved would require the knowledge of the transcendental philosopher, who has got behind phenomena to the things-in-themselves.

No doubt, satisfactory definitions of Attribute and Accident may be given. At present I can only say of them as Dr. Johnson said of light: "We all know what light is, but it is not easy to tell what it is".

ERNEST CHARLES BENECKE.

"A NEW DEPARTURE IN METAPHYSICS."

THE Rev. E. R. Conder in his *Basis of Faith*, the "Congregational Union Lecture" for 1877, dealt with the "Nature and Validity of Knowledge" in a chapter which now is removed to stand as an appendix in a second edition (Hodder and Stoughton, 1881). "I attach (says Mr. Conder) great importance to the views which I have endeavoured to establish, and which appear to me, if just, to furnish a new departure in Metaphysics." "It is not easy (he adds) to overrate the importance of dealing with the metaphysical root of scepticism;" and with a just sense of the moment of what he has essayed, he complains in his new preface that "no attempt has been made to discuss any of the main characteristic points". I therefore propose to make brief inquiry into the truth of his metaphysic and to examine its claim to novelty. He sums up his essay in twelve theses which he holds to have made good. For how many of them he claims originality he does not say. They have been already printed in MIND XIV., 297-8.

Theses (1) and (2) state that "human knowledge is collective," implying an interacting society of minds, and so no criticism of knowledge can be valid that proceeds from "the standpoint of a single *isolated* mind". That all this is abundantly evident, and that no one has ever attempted to dispute it in word or deed, we see at once so soon as Mr. Conder explains that by "knowledge" he means a well-ascertained and provisionally permanent consensus, such as is what we call "common sense," or when further purified, compacted, and organised "science"—*e.g.*, "Chemistry," to take his own instance. Of course these are social products. "Knowledge as we possess it could never have come into existence without the interaction of at least two minds." That goes without saying. And when has there been a critique of knowledge "from the standpoint of a single *isolated* mind"? It is quite true that Kant, Fichte, and Hegel base their "Kritik," "Science of Knowledge," and "Phenomenology" on the reflective analysis of their own minds. But they were not "single isolated minds," "absolutely self-educated," as Mr. Conder tells us

fishes are; nor was any one of them the impossible infant cast on a desert island without even inheritance in his brain, and suckled by some amiable wolf. The existence of other selves may be "one of the foundations of knowledge" as we possess it; but it does not follow that their existence is "not one of the problems" of metaphysic. The question "How do I come to know of them?" is quite legitimate; and we should be begging it, if we put them, as known existents, amongst our data, as Mr. Conder seems to propose.

The next four theses form an interdependent and correlevant group. (3) Knowledge involves *(a)* correlativity of human minds and nature, *(b)* correspondence and communion of human minds *inter se*, *(c)* correlativity of "the parts and elements of nature". This perfect correlativity of all minds and things forms one harmonious universe, suggesting a "First Cause" and central intelligence. (4) It follows that an adequate doctrine of "the relativity of knowledge" concerns very much more than the mere correlation of subject and object; (5) that the possibility, truth and value of knowledge depend on the universal correlation; and (6) that there are no things-in-themselves, *i.e.*, out of all relation. If there is anything anywhere enjoining the *otium cum dignitate* of a thing-in-itself, it is certainly not in this absolutely correlated universe. Most that is said in these four theses is perhaps beyond question; but it has all been said many times before. Renouvier and others have repudiated things-in-themselves. Kant only coquetted with them in a half-hearted way. Hegel may well be called the prophet of absolute correlativity; and Spinoza was his forerunner. Besides, his "causa sui et mundi" and his infinite attribute of thought or consciousness that subsumes and comprehends all the others, anticipate Mr. Conder's "first cause" and "intelligent One". To go on merely naming Mr. Conder's predecessors in the line of these four theses would be an almost endless task; and any discussion of their speculations lies beyond the compass of this brief paper. When (p. 381) Mr. Conder tells us that "universal knowledge oozes forth from every pore of nature," and at the same time that "all nature is built on" this ooze, one feels that *his* speculation at least is "passing strange". On the other hand, when he charges "the Philosophy of the Conditioned" and to some extent the Critical Philosophy with representing "as our *disability* that which constitutes in fact our ability, namely, the mutual relation of the human mind and the universe," one who had been indoctrinated by Hegel would be disposed to agree with him. "Metaphysicians have always been trying to get *at the back* of knowledge . . . impossible quest!" See Ferrier anywhere: that sentence is the soul of *his* metaphysic. Again, "Properties are relations;" "that which has no properties is nothing". Exactly so. *Seyn* = *Nichts*. "Absolute existence is a phrase absolutely without meaning." So have said Renouvier, Hodgson, and others.

Thesis (7) is to the intent that knowledge is or ought to be a body of true and certain judgments. Everybody says that. It is everyone's ideal of Truth. After difference, it is pleasant to find oneself

in agreement with Mr. Conder where he says that "as the presentments of consciousness are not judgments or statements of fact but primary facts, they cannot be unreal" and only "Our *interpretation* of consciousness may be erroneous". But here we are together on the common ground of Modern Psychology, and join hands in accepting the ordinary doctrine of illusion and error. It is impossible to indicate all the common property that we two, along with the rest of the philosophical world, have a joint interest in. This sample must suffice.

(8) "That our primary judgments have no logical subjects, but are predicated either of phenomena immediately present to consciousness or represented in memory, or of those realities of which phenomena are the natural signs, *viz.*, self, other selves, or causes—that is forces or centres of force—external to the mind." The first clause of this rather complex thesis is simply an enlargement, as Mr. Conder admits, of Dr. Mansel's "golden sentence" that "the unit of thought is a judgment". "Every concept is a condensed judgment." And there must be judgments that do not imply any previous judgment, and therefore do not involve a "logical subject" or concept. Judgments of unity and plurality, of identity and difference, of quantity, of quality, of degree, &c., are "primary," "immediate," unanalysable judgments. In fact, Mr. Conder's "primary judgments" are for the most part simply Kant's or Renouvier's Categories in concrete form and application. There will be nothing revolutionary in this for their followers. He also calls every single reaction of attention on a sense-presentment, a primary judgment, as when I mentally say "This is green". That is an affirmation no doubt. And he conjectures that there may be as many "intellectual senses" or "distinct intuitive faculties" as there are "primary attributes" and, therefore, kinds of primary judgments in this sense! This is perhaps innovation in psychology, and there is no great harm in it, if there may be little profit. But, then, there are "primary judgments of reality," whereby we penetrate the phenomenal to the "substantive outward realities"; and this is a more serious matter. For when I not merely say "This is green" but "This is a pea," my thought touches matter *per se*, and when I say "I am I," I am in contact with mind *per se*—both quite unphenomenal. Well! this has all been argued before by Reid, Hamilton, &c., and redargued by Berkeley, Kant, Ferrier, &c.; and Mr. Conder does not contribute anything new to the controversy. It rather tends to confuse the issue to clump together Time, Space, Persons, and Laws of Nature as unphenomenal realities. And in his discussion he does not sufficiently remember that with his opponents the phenomena *are* the realities and *vice versa;* that phenomenal means relative, and that with himself all knowledge is such and therefore phenomenal; that "transience" is not a necessary connotation of "phenomenon"—*e.g.*, Time is a permanent phenomenon. When denying (as part of his argument against phenomenalism) that we can construe the consciousness of others only in terms of our own, he thinks it enough to adduce the case of an infant longing for its

absent mother—"not," he says, "for the reappearance of certain phenomena but the sense of a protecting presence!" What else is phenomenon but "*presence*" in consciousness? Then the child's "intuition of personality overruns its bounds". "He attributes personality to inanimate objects." What is this but construction in terms of consciousness? "Phenomena are portions of consciousness," and "everything of which we can be directly conscious is a phenomenon". How then can knowledge be other than phenomenal?

"*The one abiding element of consciousness is the sense of permanent self*, which has no relation to time (!), to space or to any phenomenon in particular." And yet "self is not a phenomenon". Is not this to say and gainsay in the same breath? But, again, we touch external nature not at one point only, but two, "perception and *action*". "And what is action?" "It is *Will*, measuring itself against the forces of nature, and of other wills, *i.e.*, against reality." Force is unconscious will. Will is conscious force. Will or Force is Reality—Substance, *Ens!* "Behind the screen of phenomena stands the abiding reality of Force." (So says Mr. Conder with Spencer.) But what concrete fact of consciousness or knowledge do these surreptitious abstracts stand for—or rather cunningly supplant? Simply the feeling or sense of effort, which is one single indissoluble fact or phenomenon of consciousness, and is not to be broken up without the absolute loss of all meaning. Like Ferrier's "perception-of-matter," it should therefore be printed and read and understood as one word for one fact—thus, *Feeling-of-effort.* That is the sole possible datum for all these speculations about force and will, and it does not justify or support them. It is purely phenomenal; and out of the phenomenal in consciousness, only the phenomenal in thought or knowledge can come.

Thesis (9) requires no special notice. It has virtually been considered under the last. (10) affirms that the truth of judgments lies "in a correspondence of relations"—"in the facts of nature being so related to one another as our judgments affirm them to be". No one will deny that; though Mr. Conder thinks he is here contradicting and improving on Locke. Mr. Conder says that Truth "depends simply on the correspondence of the relation between the signs with the relation between the realities for which those signs stand". Locke says, "Truth seems to me to signify nothing but the joining or separating of signs as the things signified by them do agree or disagree one with another". Where is the difference?

The last two theses concern "the validity of Human Knowledge," and affirm that we are bound to trust "our own faculties—notably memory and reason"; that, accordingly, thoroughgoing "philosophical scepticism" is impossible suicide; that the subjective ground of all scientific certitude is an implicit and unavoidable faith, and that "for objective verification," we have the fulfilment of expectation and prediction. All this is clear enough, and belongs to the common stock. But perhaps enough has been said to show that it will be somewhat difficult to concede that Mr. Conder has furnished either "a new departure in metaphysic," or a true one.

J. Burns-Gibson.

REFLEX EFFECTS OF EXTEMPORE SPEAKING.

Of all the intellectual arts, not the least purely intellectual is the art of public speaking without manuscript or notes. There can hardly be any other that so imperatively demands good mental habits; in fact, the more I study the connexion between the excogitation of ideas and their expression—the more am I convinced that, to become an accomplished speaker, the most essential means to be employed is the discipline of the brain; nor is it possible to over-estimate the value of a powerful and cultivated mental organisation to the man whose profession it is to influence others by oratory. I have therefore thought it would be a help to the students of mental phenomena, if one whose calling is that of a public speaker and whose duties in that capacity inexorably demand the exercise of his powers at frequent and stated times, were carefully to note (so far as possible) the varying effects produced by this intellectual exercise and felt on his own brain and the other parts of his nerve-system. For example, suppose a lecturer has been straining unduly any one faculty, does he, after he has finished his labour for the time, feel any effect on his brain; and if so, what are the nature, the locality, the duration, &c. of that effect? This course of investigation would necessarily be difficult; but if even a feeble attempt were made to carry it on during a sufficiently extended period, further knowledge of the functions of the cerebrum might be acquired, and past discoveries and conjectures confirmed or disproved. Such observations would also be of no small value to the student of elocution, and to the public speaker at the bar, in the pulpit or on the platform.

For several years I have been in the habit of making these observations—solely for my own use at first, without any reference to the mysteries of mental science. My present desire is respectfully to lay my notes before the readers of MIND—leaving them to make what use of them they will. For some time back, the effects have grown feebler and consequently more difficult to chronicle; till I am now scarcely sensible of any after-effect. And this suggests another idea: Not in the case of the perfect orator, to whom public speaking is a second nature, but in that of the raw beginner, whose brain is on the rack while he speaks, are the subsequent effects so easily discerned and noted.

It would be impossible to understand properly the drift of this paper without previously being made acquainted with my method of preparation for public speaking. I begin with keenly conceiving and vividly imagining the subject—holding it up like a picture before my mental vision. I then analyse it into its parts; next these parts into a second grade of division; holding up each division before my mind's eye, I discover if it ought to be futher analysed; and so on. These particulars I range according to their natural order, observing the link that binds each to each, and commonly eschewing all *effort* to commit to memory, as the mere association of the ideas by their natural links is sufficient to make them arise spontaneously. I now, by a synthetical

process that hides the almost mechanical cutting up of the main idea, teach myself to think out the whole subject in the order thus arrived at, and so I am ready to speak. The whole of this process is carried on in the mind, except that I indicate on a slip of paper the line of thought I am to follow, under each division or section of discourse. Discarding the paper, I stand up before my audience, and begin to *think* on the subject again. I now cannot help *thinking my thoughts* in the same order as I had previously taught myself to do. Images, not words, pass before my mind; I seem then face to face with realities and there is some power in the brain which, if not interfered with, will cause me to express what I imagine before me. The multitudinous failures of which I have been too painfully conscious, have been, I may say exclusively, due to a sort of timidity lest this method should not sufficiently secure the very things in which I have failed.

It must be evident that mental work such as this is a tax on the cerebral energies, and it is precisely when the overworked part of the brain in its own way protests against any further continuance that the judicious observer may note what part of the brain seems to be affected by the kind of mental work in which he has been engaged.

The following are my principal observations:

I. In all cases of which I have taken notice, when any faculty of the mind has been exercised too much without variety, the first result is a sense of weariness and satiety, and a craving for an opposite kind of study, followed by great eagerness in entering on the new pursuit when the craving is indulged. If, from whatever motive, I have not given way to this desire, the next feeling is that of uneasiness in particular parts of the head—parts varying with the different powers then at work. The third stage is acute pain in the same parts. In the first stage the sense of weariness is driven away by a new and especially by an opposite kind of pursuit, but in the last stage the pain remains for a time even when a totally different part of the brain is employed; it may remain for hours, being most perfectly driven away by total cessation of work and by sleep; but even next day after a refreshing slumber, this effect has appeared in another form—a sensation as if something foreign had found its way to that region of the head but was now gone—a feeling presumably due to the previous gorging of the blood vessels. Further than the third stage I have never permitted myself to go.

On the other hand, there is, up to a certain point, a sensation of pleasure in the mere exercise of each faculty—a sensation felt in the same place as the pain is afterwards felt, but not so decidedly, partly because the emotion of pleasure seems to draw into action other parts of the nervous system, and the effect is a mixed one; and partly because, when the pleasure has been most powerfully felt, my mind has always been so much engrossed with the subject of study that there is a great difficulty in observing the *locale* of the feeling, and the effect does not last for any time after the actual study ceases.

II. One of the most agonising of mental states is what is commonly

known as "stage fright"—and public speakers of the highest powers have often declared their first efforts to meet the gaze of many eyes to have been real torture. The reader will be helped to understand some of my subsequent remarks, by the knowledge that I never experienced "stage fright". From the very first, I never lost myself through nervousness. The first time I rose to address an audience, I was perfectly cool. After being licensed, I preached to a large congregation without notes, and was as much at ease as I am now. My self-confidence helped me. At that time I did not know the dangers and difficulties of the path before me, and, ere I discovered them, I was able to look at them calmly. My physical constitution must have been a factor in the cause of self-command at this stage.

It will be necessary to keep this in view as the reader proceeds.

The following remarks refer partly to the preparatory discipline, partly to the actual exercise of public speaking.

III. When the process of analysis has been unduly prolonged without intermission or variety, uneasiness and subsequent pain are felt in the middle of the top of the head. This pain is never so severe as that in some other cases.

IV. After very strong emotion while preaching, sensations of uneasiness have been felt towards the back of the head. These are not unfrequently accompanied by a loathing of food if presented immediately after the sermon is over. Squeamishness is frequent; twice the nausea was so great as to produce vomiting.[1] Adequate and varied expression given to the emotion while lasting, is a very great aid in the prevention of these unpleasant results.

V. When many parts of my mind have been called into vigorous play, and when, in consequence, I have been speaking with vehemence, a peculiar, indescribable sensation makes itself felt in the back of the head—a feeling as if something were pulling it backwards and downwards. This is perhaps the most singular and disagreeable effect I have ever felt. Akin to it and caused by the same thing and sometimes accompanying it, is a feeling as if I were to fall sideways—a fear that I could be easily knocked over; I seem to need steadying; the automatic movements of the limbs are conscious and voluntary—a volition different from that of a man purposely putting down his foot in a certain position; a greater effort seems necessary.

This state of mind has now ceased to trouble me and I think the reason lies in my succeeding in keeping my voice on a lower pitch in the more impassioned paragraphs, where it is apt to rise too high.

VI. I have never had the smallest sense of weariness in exercising my imagination. Indeed the more vividly the objects on which I happen to be speaking appear before my mind, even when they almost seem real, the more does my mind crave for a continuation of the mental panorama. This is the most intense, the most enduring and

[1] I have read somewhere that the celebrated George Whitefield almost always vomited after returning from preaching.

yet the calmest pleasure I have in the exercise of my profession; a pleasure which has never yet palled upon me. In exerting this faculty, however, while engaged in my study, I have to be careful to beware of continuing it up to the point of retiring to rest, for by dire experience I find that the energetic concentration of attention upon these mental images immediately before sleep makes it unsound and disturbs it with dreams. Sometimes in the pressure of work I have prolonged this kind of study far into the night; but nature invariably revenges herself in the manner described. To obviate the difficulty, I so arrange my work that this exercise is engaged in early in the day, if at all; as the best preventive of these disagreeable effects is to go into company.

My observations give no clue to the locality of the brain in which this function is performed, but the slight sensations I *have* felt have been about the front and top of the head—too vague however and too indefinite in position for me to determine.

VII. A prolonged effort of the power of conception undoubtedly affects me on the top of the front part of the head. The sensation is not a painful one; like that produced by the exercise of the imagination, it is a pleasure that never palls upon me. But as I continue striving to conceive, to understand, I gradually become conscious of using the aforesaid part of the head. One of the most important rules a speaker must observe is clearly to conceive each truth he utters—to distinguish it from all others and to know exactly what he means. In some species of composition this faculty is frequently called into play; and some sermons and lectures demand the exercise most imperatively. In such instances, I should never hesitate to point out the exact spot where the brain is at work. I must not forget to state that, on retiring to my study after an evening's labour of this nature, my mind is in a state of abnormal activity; then difficult problems afford relief and the driest books are interesting. The brain grasps thought with eagerness. My whole being seems on the alert.

VIII. Part of the last mentioned region, and that portion lying immediately behind it, are affected by the effort to recall previously arranged ideas. To any one wishing to learn the art of extempore speaking, an adept would be sure to give the advice—Leave nothing to be called up by a conscious effort of memory; nothing is more fatal to fluent utterance than the struggle (a generally vain one) to recal a lost word or a forgotten idea: when addressing an audience, a man must speak what he at the moment thinks, not recite what he has previously learned. Public speaking is quite different from reciting, which is mere reading from the tablets of memory. But before I had learnt to make this distinction, I often feared to trust myself to the "inspiration of the moment" (a dangerous phrase but implying a certain amount of truth), and instead of uttering the present thoughts flowing from my mind, I laboured to reproduce my previously-prepared train of ideas. It not unfrequently happened that my memory failed at the most critical moment. Then ensued a

desperate and powerful attempt to recal the lost thought—a most painful experience. Two or three such attempts in the course of a sermon have been sufficient to cause a loss of mental tone for days; and I have often sincerely wished I had chosen some more easy if less noble profession. In this condition of brain, the pain was massive rather than acute, and while felt, as I have stated, towards the back part of what seems to be the region of conception and behind that region, was also diffused in a less degree over the greater part of the whole brain.

IX. The process of impressing a set of but slightly connected facts on the mind so as to be recollected at a given moment in a certain order (a process sometimes necessary but generally to be avoided by an extemporaneous speaker) produces a sensation in a totally different locality of the head. This is the most marked of all the effects I have experienced; but that may be due to individual mental constitution, as I have always felt myself deficient in what is sometimes called "voluntary" recollection *i.e.*, in which ideas, facts, dates, &c., do not spontaneously arise in the mind. My attention to the general subject of this paper was first awakened by the exactness with which certain pains followed the effort now under consideration. These pains, when the effort has been severe and prolonged, make themselves felt acutely on the top of the middle of the right side of the head. After a time they become excruciating and continue for many hours. A sleep gives great relief, but even after all pain is gone, a most disagreeable feeling remains for a time. A long walk through rural scenes is the best cure for this and almost any other trouble of the would-be orator—change of scene, muscular exercise and the open air operating like a charm on the jaded mind.

X. The vigorous use of so many faculties as are required by the so-called extempore speaker frequently results in want of sleep. From this affection I have suffered greatly, especially in the earlier part of my ministry. At first I rarely slept, after preaching, till 3 A.M., and very often rose early on Monday morning without having for a moment lost consciousness in slumber. This prevented the rapid recovery indispensable to one called on to give himself at once to other mental labour. Nowadays, I generally sleep well and I desire to record my conviction that want of sleep results from something wrong in the habits of the speaker suffering from it. Let us learn to *think and speak naturally*, working and resting and taking due care of our bodily frame, and public speaking will become to us a very healthy intellectual pursuit. It is one of the functions most proper to man, and any evil result is abnormal.

The mind suffering from sleeplessness thus caused is in a state of unnatural activity. Its energy seems perfectly extraordinary. It seems to crave for work and will work on in spite of every attempt to curb it. It is like an unmanageable steed; it *will* run and no bridle can control it. This happens mainly when the front part of the brain has been employed as in excogitating, understanding, imagining, remembering, reasoning, &c.; whereas when strong emotion manifest-

ing itself in abundant action has ruled the hour, calling into requisition the hinder part of the head, I can fall asleep without difficulty.

XI. My observations lead me to believe that the conversion of thought into language is a function of the lower part of the front of the brain. Whatever be the case with others, this is not an exercise that readily exhausts me; before I feel any pain resulting from it, general fatigue of the body sets in. I have sometimes however experienced a sort of slight depression in the region named, a sensation readily removed by my speaking to different persons on an entirely new subject.

The above observations are not the result of preconceived opinions. I concern myself but little with the views of any one school in mental science. My profession demands my attention to another subject. The study of theology, however, will not permit of indifference to the conclusions of psychology. There cannot be correct theology without knowledge of human nature, and in particular without knowledge of the intellectual, emotional and volitional powers of man. No one therefore more ardently desires the perfecting of mental science than the candid student of scientific theology. And it would be no small pleasure to me, if, by these independent investigations, I were to aid even feebly those earnest men who from another standpoint and in another sphere are striving to arrive at truth.

DUNCAN MACGREGOR.

DEFINITION OF "SENSATION".

THIS term, regarded in itself, has a clear and definite connotation; but it belongs also to a group consisting of three members, and so needs to be carefully distinguished from its close companions; and it has, besides, various special meanings, which in like manner demand our consideration—meanings determined by the word wherewith it is contrasted. The full handling of the term, therefore, will consist—first, in analysis, or presentation of the constituent elements; next, in definition by discrimination, or marking off the so-called synonyms; and, last of all, in adducing the correlatives or contrasts. The related group is—*Feeling*, *Sensation*, *Emotion;* and the contrasting terms are—*Perception*, *Idea*, *Reflection.*

I. An adequate analysis of Sensation discloses the three following facts:—(*a*) an affection of the sentient organism in a distinct locality or seat; this affection usually arises from an external stimulus, but may be the result of an altered condition of the organism itself; (*b*) a mental state or consciousness, of the nature of a feeling, and determined, as to its specific character, by the organic affection; (*c*) an outward manifestation of this consciousness—its corporeal or bodily expression. Of these, the first is the indispensable condition and invariable antecedent of the phenomenon, and the third its invariable consequent or result; but the second alone constitutes the sensation proper, and this sensation is always a thing *subjective.* Criticising

Jacobi, Hamilton (Reid's *Works*, p. 795 b. *n.*) defines it—"The mere consciousness of a subjective sensual state,—of the agreeable or disagreeable in our corporeal organism": which definition may indeed be accepted, if we regard the second clause as pointing to the emotive[1] aspect of sensation, not as exhausting the characteristics, and if to the word "sensual" we give a very liberal interpretation, and understand by it,[2] not merely the five senses, but the "internal senses" or organic sensibilities, and the muscular sense as well. Brown says (*Lects.* xvi., xvii.)—"A state or affection of the mind, arising, immediately and solely, from a state or affection of the body, is the only definition which can be given of a sensation"; and again—"Sensations are those mental affections which are immediately successive to certain organic affections, produced by the action of external things". But Brown is here less satisfactory than Hamilton, inasmuch as he does not attempt to give the differentia of sensation *as a mental state.* For the same reason, we object to Mansel (*Metaphysics*, p. 68)—"Sensation proper is the consciousness of certain affections of our body as an animated organism": and we cannot consider the following distinction as psychologically valid (*Ib.*, pp. 152-3)—"The essence of the bodily sensation consists in its being a nervous affection of a particular kind. The accident, or emotion, which in certain cases accompanies it, is, that that particular affection is agreeable or disagreeable." The fact seems to be, that *all* sensation is feeling; and in *some* of the sensations (*e.g.*, the organic) the pleasure or the pain becomes the prominent factor.

We take it, then, that Sensation is a purely subjective fact dependent on the affection or impression of the organism; but it is not, on that account, to be regarded as an entirely passive affair. On the contrary, like all conscious phenomena, it implies change; and to whatever extent it does so, is to that extent active. Even common language might guide us here. For common language (following the French) uses Sensation to denote something new, fresh, and exciting—as when we speak of "creating a profound sensation," or of such and such a person "being unable to live without sensation": and what is this but to acknowledge, on the part of popular usage, that Sensation reposes on relativity, and involves an active element? A sensation, in Ferrier's use of the word (*Lectures, &c.*, II. 175)—that, in which is involved "no act of discrimination, no act of any kind"—is a chimera.

II. Feeling, Sensation, Emotion: these are often employed as exact equivalents; but the three things they represent are quite distinct. Take, first, Feeling.

This is a term of equivocal import; having now the narrowest, now the widest, signification.[3] Sometimes it stands for consciousness in

[1] We use "emotive" as the adjective of the noun "feeling," restricting "emotional" to "emotion".

[2] As is now commonly done—after Brown, Bain, &c.

Cf., in this respect, the Latin word *Sensus;* as used, for instance, in the philosophical works of Cicero. *Sensatio*, of course, is not pure Latin.

general; sometimes it is the generic name for one whole class of mental phenomena—Feeling, as distinguished from Conation and Cognition; sometimes it is confined to one or other of the species of this class; and sometimes it is restricted to a single variety of the species. Thus, for instance, both in literature and philosophy, it has frequently been employed as a synonym for Touch. We find it so in Reid, and we find it so in Addison. The latter says (*Spectator*, No. 411)—"The sense of Feeling can indeed give us a notion of extension, shape, and other ideas that enter at the eye, except colours; but, at the same time, it is very much straitened and confined in its operations, to the number, bulk, and distance of its particular objects". Again, we frequently identify feeling with some special emotion: we use the word to designate sympathy or "heart"—as when we speak of a "man of feeling," meaning thereby a man brimful of the milk of human kindness. Once more, feeling stands for conviction, opinion, or belief—as when we say, "My feeling is that you are right"; and, again, for impulse, inclination, or desire—as in, "My feeling is to embark in this project".

And, as with Feeling, so with Emotion: it too has suffered greatly from abuse. There is a popular usage and there is a philosophical usage, and matters are not mended by the fact of synonymous complications. In common parlance, Emotion points to depth or intensity of feeling; philosophical analysis lays the stress on complexity. But when in ordinary conversation we employ the adjectival form "emotional," we usually do it with philosophical precision. "A sensitive nature," in the mouth of the plain man, means one thing, and "an emotional nature" quite another; and the distinction is exactly that which is drawn by the philosopher. Again, Emotion has often been identified with Passion. But passion is only a single manifestation of emotion, or, rather, it is emotion in one particular phase and degree of it *(perturbatio)*. Thus, love and anger are both emotions: we call them passions only when they rise to the pitch of extreme agitation, or when they thoroughly engross and overwhelm us. Moreover, we sometimes call a man's ruling, guiding principle a passion—*e.g.*, power, ambition, wealth; but these, until they are established, settled ends or motives, are simply emotions.

The question, then, recurs, What, philosophically considered, is Emotion and what is Feeling; and how are the two discriminated from Sensation?

Three possibilities present themselves here. We may either take sensation as the genus, and arrange feeling and emotion under it as species; or we may regard emotion as the genus, allowing feeling and sensation to stand as species; or we may give the generic place to feeling, and then we have as species sensation and emotion. Something like an approximation to the first of these plans is discoverable in Reid. When Reid does not employ feeling and sensation as mere synonyms (which is his usual method), he distinguishes the two thus (Reid's *Works*, pp. 229-30 and 311 b):—"Sensation is a name given by philosophers to an act of mind, which may be distinguished

from all others by this, that it hath no object distinct from the act itself. . . . The word *feeling* is used to signify the same thing as sensation, which we have just now explained; and, in this sense, it has no object; the feeling and the thing felt are one and the same. Perhaps, betwixt feeling, taken in this last sense, and sensation, there may be this small difference, that sensation is most commonly used to signify those feelings which we have by our external senses and bodily appetites, and all our bodily pains and pleasures. But there are *feelings* of a nobler nature[1] accompanying our affections, our moral judgments, and our determinations in matters of taste, to which the word *sensation* is less properly applied"; and, again—"feeling is only a more refined kind of sensation". But this is clearly objectionable, as resting on a thoroughly inadequate analysis of the phenomena, and could be tolerated only so long as Mind was handled on the bipartite principle—Intellectual Powers on the one hand, and Active on the other. We find the second plan in Brown. Mental phenomena, with him, are either External or Internal; they are Sensitive Affections, *i.e.*, such as are determined by the presence of an external object, or they are mental states not dependent on an external object, but arising because of some previous change in the states of the mind itself. Of these Internal Affections there are two classes, *viz.*, Intellectual and Emotional; and the Emotional include (*Lectures*, xvi.) "all, or nearly all, the mental states, which have been classed by others under the head of active powers". The objection here is, that Emotion comprehends far too much. A great deal of what the older writers treated under Active Powers is not, with any propriety, designated Emotion; while some of the Emotions were handled by them under their first division—Intellectual Powers. We are driven, therefore, to the third of the above plans; and this is the one that has been adopted by Prof. Bain, for instance, and is now pretty generally followed. Feeling is to be regarded as the genus (marked off from Intellect and from Will), and the two species are Sensation and Emotion. The point of importance then comes to be, What are the defining characteristics of the two species? where shall we discover their specific differences?

Both, as we have already said, are feelings: both, too, have an outward physical expression.[2] But there is not in emotion, as in sensation, a localised corporeal affection—implying distinct organic seats or organs; and, whereas sensations are primary and simple feelings, emotions are secondary, fuller, more complex, and derived.

[1] These "feelings of a nobler nature" are with Hamilton *sentiments*, but are more properly denominated *emotions*. Sentiment, as a word, is but a sorry substitute for Emotion. It has in English a well-marked *intellectual* signification (= thought, opinion), and so cannot, without the risk of confusion, be confined to a species of Feeling; and, besides, the adjective *sentimental*, owing to its vulgar associations, is ill suited to express in philosophy the fact designated by "emotional".

[2] This concomitance of the physical and the mental, in the case of emotion, is well expressed by the Latin "*com*-motio" (Classical as well as Scholastic).

Again, sensations implicate the intellect but slightly; the intellectual implication on the part of the emotions is considerable and often great. The two have also been discriminated with respect to their bearings on volition. It has been roundly maintained that "in themselves considered, emotions can scarcely be called springs of action. . . . Emotions in themselves, and by themselves, lead to quiescence and contemplation rather than activity." But, plainly, emotions (many of them) *are* very powerful springs of action[1]; while many sensations, until they reach a particular pitch of intensity, are sedative. It may be granted that emotions like the æsthetic lead almost wholly to contemplation and quiescence; but what of love and the tender emotions generally? and what even of grief and fear, up to the point where they paralyse and overwhelm us? Then, again, is not sensation often sedative and soothing too? Witness (*e.g.*) the pleasure of the eye arising from a soft light, or the pleasure of the ear from certain kinds of sound. Volitionally considered, sensation and emotion are not to be discriminated; or, if we make a difference between them, it must be in a duly qualified, restricted form.

III. What now of special significations?

In the problem of the external world, Sensation has a wider and a narrower sense. In its wider sense (which is now generally discarded), it stands for Sensation proper *plus* Perception proper; this last being sometimes designated, for distinction's sake, "*external* sensation". In its narrower sense, which (after Reid) is the one commonly accepted, Sensation is used as the correlative of Perception. As thus employed, the one has reference to the outward or objective attitude in the process; the other is the subjective or inner: the one carries us out of ourselves and brings us into relation with extra-organic objects; the other does not. The former (the perception) is sometimes called "the cognitive or knowledge-giving element," and sometimes "the vehicle of information". But, obviously, neither form of expression is sufficiently restrictive. There is in sensation, even in its narrowest sense, an intellectual or cognitive element; and in the mere fact of *localising* sensations in the organism, there is a certain differentiation of external from internal; but the cognition implied in perception is knowledge of the outward or objective regarded as the extra-organic.

The relation between Sensation, thus considered, and Perception, has been formulated by Hamilton in his well-known law (Reid's *Works*, p. 880 a):—"That, above a certain point, the stronger the sensation, the weaker the perception; and the distincter the perception, the less obtrusive the sensation: in other words—though perception proper and sensation proper exist only as they co-exist, in the degree or intensity of their existence they are always found in an inverse ratio to each other". But this, as Mr Herbert Spencer has

[1] The word itself would seem to indicate this. *E-motio* (Scholastic but not Classical) = impulse *outwards*.

remarked (*Prin. of Psych.*, II., 246, 248), is "rather an adumbration of the truth than the truth itself". The correct position seems to be—"not that sensation and perception vary inversely, but that they exclude each other with degrees of stringency which vary inversely". And if so, then the fact ceases to be isolated, and becomes typical. Exclusion of this kind is not confined to Sensation and Perception, but extends also to all mental states in their relation one to another: it is very general, and the law expressive of it is in substance just the law of absorbed Attention—applicable alike to sensations, to perceptions, to engrossment in a train of thought, to imagination, &c. It is, perhaps, this that Ferrier (*Lects., &c.*, II., 40, 69, 70) means, when he enunciates the law of the inverse ratio as holding between Sensation and Consciousness; at all events, that law has no other true significance. Sensation, as here taken, covers a wide field (as will be seen from the following quotation), and Consciousness is the notion of personality—or, as Ferrier himself likes best to express it, the "self-reference"—that "in man generally, though by no means invariably, accompanies his sensations, passions, emotions, play of reason, or states of mind whatsoever". It is maintained, "that the degree of our consciousness or self-reference always exists in an inverse ratio to the degree of intensity of any of our sensations, passions, emotions, &c.; and that consciousness is never so effectually depressed, or, perhaps, we may say, never so totally obliterated within us, as when we are highly transported by the vividness of any sensation, or absorbed in the violence of any passion. While, on the other hand, returning consciousness, or increasing self-reference, has always the effect of deadening the sensation and suspending the passion, until at length, when it reaches its *ultimatum*, the sensation or passion becomes totally extinct."

Again, Sensation is sometimes put as the antithesis of Idea. This, in the hands of Malebranche and the Cartesians (not Descartes), is the distinction between sensation (*sentiment*) and perception, which we have just been considering; but, in the hands of others, it is used to denote a different fact. In *their* interpretation of it, Sensation is the present experience of the actual or real, as distinguished from the recollection of such actuality (Memory), and from the mental creation of a situation that has never been experienced at all (Constructive Imagination). Sometimes, also, the relation is expressed as that of Object and Subject: but to call Sensation the *object*, after having in sense-perception set it forth as *subjective*, is misleading in the extreme. A further complication arises when Sensation itself is distinguished into objective and subjective. An "objective sensation" is, in that case, one arising from a stimulus external to the sense-organ; a "subjective sensation" finds its origin in the changed condition of the organ itself.

A word still remains on Locke's famous antithesis of Sensation and Reflection. Neither term of this contrast is used with strict or philosophical precision. On the contrary, the latter, in order to give the desiderated meaning, must be confined to introspection or self-obser-

vation—to the knowledge of mind and mental processes that is gained by the psychological method of internal perception; and the former must be extended so as to include external perception and everything that gives us a knowledge of the extra-organic—information concerning the world without. It is obvious that Sensation here has a quite unjustifiable latitude; and, as for the other terms, *self*-observation is only one species of Reflection. The process implied in continuous attention directed towards "external material things" is often as much reflection as is "the notice which the mind takes of its own operations, and the manner of them; by reason whereof there come to be ideas of these operations in the understanding" (*Essay*, II. i., 4).

William L. Davidson.

VII.—CRITICAL NOTICES.

Kant and his English Critics. A Comparison of Critical and Empirical Philosophy. By John Watson, M.A., LL.D. Professor of Moral Philosophy in Queen's University, Kingston, Canada. Glasgow: Maclehose, 1881. Pp. xii., 402.

Professor Watson's work, in every way a valuable contribution to Kantian literature, has as its main end the comparison of the philosophical principles of the Critical system with those of the Empirical school, generally and with some justice described as specifically English. There can be no doubt that the opposition between these two methods of speculative inquiry is the cardinal feature of modern philosophic thought, and a critical comparison of the principles on which they severally proceed is unquestionably a word in season. So far as that comparison is carried out by Prof. Watson, the work is done well and thoroughly. He has stated with care and precision the outlines of the fundamental section of the Critical doctrine—the theory of cognition, has defended its main positions against certain objections raised partly by friends, partly by opponents of the system, and has indicated with much skill and thoughtfulness the aspects in which it is defective or erroneous. In connexion with the several problems to which the Critical theory of knowledge has been applied, such *e.g.*, as the relation between psychology and the transcendental method of analysing cognition, the significance of Monism as a speculative doctrine, the nature of the fundamental assumptions of scientific thought, the distinction between phenomenal and noumenal existence, he has subjected to close examination the most prominent attempts at solution that have been put forward by writers of the Empirical school. Thus in chapter iv. (pp. 92-137) Lewes's psychological theory is submitted to an exhaustive critical examination; in ch. ix. (pp. 260-288) Mr. Herbert

Spencer's views regarding the nature and origin of the first principles or highest generalisations of scientific thought are considered, and in ch. x. (pp. 289-329) the views of Kant and Mr. Spencer are compared and contrasted on the problem of the relativity of knowledge.

The work thus falls into two fairly well marked divisions. The first and larger is devoted to the exposition, with conjoined defence and criticism, of the Kantian doctrine of knowledge, the second contains the application of the Kantian theory to the criticism of the Empirical method. A few remarks may be permitted on some of the more important features of these sections of Prof. Watson's work.

The main end of Prof. Watson's work being criticism, not exposition, it has not formed part of his plan to give any historical introduction to the Kantian doctrine of knowledge. Although no objection can be raised on this ground to his method of procedure, there can be no question that many of the salient points of the Kantian theory can only be made quite intelligible by reference to the development of the theory in Kant's pre-critical writings. It is hardly possible to do justice to the main theorems of the *Kritik* without bringing into clear light the aspects in which the several philosophical problems presented themselves to Kant. Thus, to take but one example, the position of the Categories in the Kantian scheme of cognition, their precise nature and their relations, on the one hand, to intelligence and, on the other hand, to the materials of experience, can with difficulty be made quite intelligible unless the history of Kant's own philosophic development be taken into account. For, when that is done, we obtain a clue to certain ambiguities of statement that have perplexed expositors of the system; we are able to understand how it comes about that Kant describes the Categories as notions *(Begriffe)*, that he assimilates them to the products of logical reflection, that he assumes for them a quite peculiar relation to the imaginary things-in-themselves, and that he finds himself involved in such serious difficulties when he has to define their function in the formation of experience. Throughout all the pre-critical writings, and especially in the well-known *Dissertation* of 1770, we find Kant holding firmly to the view that intelligence, *per se*, is the source of certain notions or pure concepts, and defining metaphysics generally as the analysis of these notions. Even in the *Dissertation*, generally but with little right regarded as the anticipation of the *Kritik*, these pure notions are viewed as standing in no immediate relation to experience. They do not, in these earlier writings, hold the position with reference to experience afterwards assigned to the Categories, but are regarded as standing quite apart from things of sense, phenomena, and as enabling intelligence to reach determinations of things-in-themselves, noumena. From this view of the pure notions, a view which might easily be shown to be nothing but a logical deduction from the individualist conception which Kant was unable entirely to disown, he never succeeds in freeing himself. The fundamental principle of the *Kritik* is indeed the means by which such a view is

to be overcome, but in the application of the principle Kant is constantly hampered by the consequences of his earlier doctrine, and in his mode of exposition, employs terms only intelligible by reference to it. A full commentary on the *Kritik*, written from the historical point of view, is still a *desideratum* and, so far as one can judge from the recently published portion of Vaihinger's elaborate work, it is not likely for some time to be supplied.

Prof. Watson, not entering upon any historical statement of Kant's doctrine, begins his exposition of the Kantian theory of knowledge with a statement of the cardinal features of the Transcendental method, pointing out with clearness and precision its relation to the principles of the opposed methods—Empiricism, as represented by Hume, and Intellectualism, as represented by Leibnitz. The defence of the Transcendental method as against certain objections or misconceptions is full and satisfactory; perhaps the elaborate discussion of such objections as those of Mr. A. J. Balfour, here considered, may be thought superfluous.

In the second chapter, after a statement of the main doctrines of the 'Æsthetic,' Prof. Watson examines the objections that have been raised to Kant's 'Refutation of Idealism'. The difficulties that have presented themselves in the endeavour to interpret correctly this portion of the Kantian system are due mainly to the ambiguities of the language in which it is stated, but in part at least to a certain incompleteness in Kant's view of the problem. Prof. Watson is perfectly successful in showing what it was that Kant intended to prove in the 'Refutation'—the essential correlativity, for intelligence, of real phenomena in space and subjective determination of inner or ideal life—and is therefore able to dismiss readily those objections which are based on the supposition that the things perceived are things-in-themselves. He is also, it appears to me, correct in the view taken of the ambiguous remarks in the *Prolegomena* relative to Idealism, but he has hardly indicated with sufficient fulness where it is that Kant's reasoning is defective and consequently where the source of these ambiguities is to be found. Kant assumes in the 'Refutation' what the preceding 'Deduction' had entitled him to assume, that object of cognition shall be taken to signify the complex product of sense-affection and intellectual function. He concerns himself only to show *what* it is that we mean by *reality* in an object of cognition, and this he finds in immediate data of sense-affection. The problem of external perception, therefore, which seemed so formidable when taken from the psychological point of view, appears to Kant exceedingly simple. External, *i.e.*, space-qualified, data of sense are original, not derivative. The difficulty for Kant did not lie in any doubt as to what the *real* object was, but as to the significance of the thought of object in general and as to the mode in which this thought is connected with the data of sense. He never succeeds in clearing up his theory on either of these points—the importance of which Fichte was the first to perceive. Accordingly, when Kant discusses the question of Idealism, it presents itself to him under various aspects and his expressions with regard to it are lax and ambiguous.

In chapters iii. and v. Prof. Watson continues his exposition, dealing with the Categories, the function of Productive Imagination, the nature of the Schema, and the system of Principles which is the outcome of the whole. The statement of the elements which enter into the Kantian notion of knowledge (pp. 82-3) is excellent and helpful, while the careful notice of the schema as "not a determination of time itself, but a universal determination of the manifold in relation to time," obviates many misconceptions into which less cautious expositors of Kant have fallen. In chap. vi. a full analysis is given of the proof which Kant has offered for his Principles of Judgment, and in the following chapter objections to these proofs are considered in detail. The interest centres mainly round the proof of the principle of Causality, to which Prof. Watson devotes several pages. After giving to these pages all the attention possible, I am not able to feel sure that I rightly apprehend Prof. Watson's reasoning, but, so far as I can understand it, he seems to me not to have seized what is essential in the Critical proof of this important doctrine. The term which he employs throughout, *viz.*, *sequences*, is so ambiguous that it casts a certain obscurity over the whole exposition. Prof. Watson surely does not imagine that with Kant it is the exercise of a subjective function of thought that determines invariable sequences of events in time. His opposition between arbitrary and invariable sequences would lead one to ascribe this error to him, and to suppose that he has been misled by what he thinks has misled Prof. Caird—the illustrations offered by Kant. These illustrations are mere helps, and do not enter into the proof of the principle at all. So long as we take into consideration the world of empirical phenomena, following one another in arbitrary or uniform fashion, and assume that Kant's problem is to determine how it is possible for an intelligence to which these are presented to distinguish uniform from arbitrary, we can never understand his doctrine. The law of causation as principle of judgment has nothing to do with this or that connexion of empirical events, but only with the form of possible experience of any events. No event or change, Kant desires to show, is possible object of knowledge, save for an intelligence which determines changes in time by reference to causal connexion of these changes. It is observation or experiment only that informs one whether *a*, or *b*, or *c* is the antecedent from which any given event *d* follows, and such connexions, according to Kant, are always for us contingent. To any one who has fairly considered the relation between the Principles of Judgment as determining and the principle of Reflective Judgment, it must be impossible any longer to be puzzled by the cumbrous and involved fashion in which Kant brings forward his doctrine under the 'Analogies'. As to Kant's distinction between "our perceptions as occurring in an arbitrary order and real sequences as occurring in a fixed or unchanging order," it rests partly on the fact that Kant never is able to free himself entirely from the prejudices of the psychological method, and is therefore inclined to look at the process of apprehension from without and describe it as con-

taining parts received in succession, and partly on the fact that Kant thinks it desirable to illustrate by an example the opposition between imaginary and real change. The difficulty remaining for his theory here as in the case of the 'Refutation of Idealism,' is that of applying the principle of causation to the successive determinations of our own existence in time. Kant has hardly considered whether or not this application is possible, though in his remarks on Intelligible and Empirical character he assumes it as undoubted; and he would have found it hard to show its possibility. It would have been well had Prof. Watson given some notice of this neglected element in the Kantian doctrine, the more so as it connects itself curiously with some of the theorems in the *Metaphysic of Nature*, of which a very adequate analysis is contained in chapter ix.

A brief notice of Kant's doctrine of Noumena, in chapter x., closes the expository portion of the volume. It is no doubt possible to isolate the positive side of the Critical theory of knowledge, and to consider, as is here done, only the 'Æsthetic' and 'Analytic,' but such isolation has its dangers. The doctrine of Noumena cannot be fairly understood without reference to the more metaphysical side of Kant's doctrine, and the whole function of Understanding appears in a new light when stated in relation to Reason as viewed by Kant. The doctrine of Reflective Judgment and of the notion of End in nature is really an integral portion of the theory of Knowledge, and a certain confusion must always result from considering separately one part of a very complex whole. The full significance even of the Critical theory of knowledge cannot be appreciated unless there be taken into account the relation of the thinking subject to the so-called supersensible realities which are indicated by the practical Ideas. Much of what Prof. Watson, in the two concluding chapters, rightly describes as imperfection or incompleteness in the Kantian doctrine of knowledge, is connected in the most intimate fashion with the peculiarities of the Kantian metaphysic, and the critical examination might have been made more general and more fruitful, had there been included a fuller notice of the metaphysical side of the system. The two chapters referred to appear to me the most valuable portion of Prof. Watson's work. They discuss in detail the more prominent difficulties in which Kant was involved through the influence of the individualist conception from which he had not succeeded in freeing himself. For, though the Kantian theory is in essence an attempt to overcome the abstract individualism of the preceding eighteenth century philosophy, although in it for the first time the notion of the individual is subjected to revision and criticism, yet Kant never succeeds in leaving entirely the individualist point of view. He still regards mind or intellect as the individual conscious subject, to which experience is, in part at least, given. To overcome the opposition between the cognitive subject and the cognisable world is therefore the problem at which he incessantly labours, and the several elements of his theory of knowledge are so many terms or *media* introduced in order to effect the desired union. Hence arise the special difficulties

or obscurities of the system, on some of which Prof. Watson has here commented with great skill and thoroughness. The distinctions between receptivity and spontaneity, between *a priori* and *a posteriori* truths, between *form* and *matter*, are some of the modes in which the fundamental difficulty presents itself, while an examination of the subjective processes through which the elements of cognition are realised in consciousness discloses a similar series of unsolved perplexities or inconsistencies. The separation of Sense and Understanding, the continuous tendency to regard each as furnishing a finished, definite, cognisable product, the endeavour to effect a junction by means of Imagination—these are points in the Kantian theory to which it is well to draw attention, and the discussion of them could hardly be carried out more thoroughly than has here been done by Prof. Watson.

One minor defect of his critical remarks may here be alluded to, mainly because it appears to a much greater extent in various recent works bearing on the Kantian system and written from what one may call the Hegelian point of view. There is apparent in such writings a tendency to employ extremely abstract and special terminology—terminology which has its significance only in reference to an underlying and presupposed system—and, further, to regard problems as adequately discussed or resolved when they have been reduced to the terms of the underlying system. Prof. Watson is by no means one of the greatest sinners in this respect, but his frequent employment of the expression "reflect" must cause bewilderment to the uninitiated reader. It is quite impossible to put a simple and natural interpretation upon such phrases as—"the objects we actually know are constituted for us in the reflection of the manifold of sense upon the forms of the mind" (p. 290); "the process by which the manifold of sense is reflected on the categories" (p. 292); "not a mere manifold, but a manifold reflected on a unity" (p. 358). The use of such phraseology is undoubtedly one of the greatest obstacles in the way of bringing the speculative philosophy that originated with Kant to bear in a living and practical fashion on the work of philosophy in this country.

Upon the critical analysis of the Empirical doctrines which Mr. Watson has given in chs. iv. and ix., it does not seem necessary to comment at length. The examination of Lewes's theory of knowledge is perfectly successful in pointing out the ambiguities and contradictions in that prolific writer's later works, but it is barely complete enough on its constructive side. Prof. Watson rightly dismisses the theory of the two-fold aspects, which has played so important a part in Neo-Kantian literature. As he well puts it—"The contrasted aspects, in short, are but logical abstractions, which are not in themselves objects of knowledge at all, but merely elements which, when regarded as in essential relation to each other and to self-conscious intelligence, combine in the concrete life of knowable existence". It might have been desirable, however, to bring forward in even more general fashion the fundamental opposition between the

two methods of contemplating speculative problems which may be called respectively the Transcendental and the Empirical. Something is done in this direction in the chapter dealing with Mr. Spencer's treatment of the fundamental laws of physical nature, but a further discussion might have been helpful, not merely for purposes of criticism, but as bringing into due prominence the relation between the transcendental theory of knowledge and the subordinate philosophic disciplines, such as psychology. What is specially requisite at the present time is a full and comprehensive discussion of the relation between the pure theory of knowledge as the analysis of self-consciousness and the results of the several subordinate sciences which deal with the world of experience. Prof. Watson has given a valuable contribution to this discussion; but the subject is one demanding more expanded treatment than his limits have permitted, and requiring constructive rather than critical work.

R. Adamson.

The Creed of Science, Religious, Moral and Social. By William Graham, M.A., author of "Idealism: An Essay, Metaphysical and Critical". London: Kegan Paul, 1881. Pp. 412.

The object of the present work is to furnish a critical estimate of what may be taken to be the generally accepted creed of men of science, together with an answer to the question how far certain transcendental beliefs are affected by the results of recent physical inquiries. There are propositions indeed respecting which Science becomingly preserves a serene silence, a silence, however, not seldom correctly construed as polite denial, it is a leading aim of the writer of this book to distinguish between the cases where lack of positive evidence may rightly be held to justify a negative attitude, and those other instances where "the conclusion of the whole matter" amounts simply to this—where is no organ there can be no vision. It is true Science claims large rights both of affirmation and of denial, indeed, to judge rather from practice than theory, without respect of time, place, or subject; for not even yet, with all its balanced intelligence, does the world appear to have settled the old question, whether Faith should precede Knowledge, or Knowledge take precedence over Faith. On the one hand, it is assumed almost as an axiom that assent is valueless in the absence of evidence; on the other, the exercise of "believing where we cannot prove" is claimed as the supreme wisdom. We are reminded of this venerable controversy in perusing Mr. Graham's volume, for very much of the argument hinges upon it. Thus we are not at all clear what is our author's criterion of speculative truth. Sometimes it seems the "instincts of the human heart"; at other times, the unthinkableness of the contradictory; again, some inexplicable necessity, a "must believe" or "we are compelled to interpret," and even a majority vote of illustrious thinkers. A more superficial defect is the failure to observe a distinctly logical order in the treatment of the topics. Book I. discusses

the Creed of Science, Religious and Moral; Book II. the Gospel and the Social Creed of Science; and Book III. the Future of Religion and Morals: a tolerably clear division; but in point of fact the same ground is constantly being re-traversed, and to grasp the full force of the argument, portions of separate chapters must be carefully collated. Passing to the matter and general tone of the work, there is nothing but praise fairly due. Such free criticisms of the philosophy of science are rarely made with as full comprehension of the doctrines criticised and so evident a desire to be thoroughly impartial. Mr. Graham always makes the best case he can for the positive doctrines, and even after delivering himself of what he deems their needed supplement and correction, turns back once and again to interpose an assumed reply on the part of his imaginary collocutor. It is evidently the author's desire to gain no merely verbal victory, but really to worm out the very truth. Books like this are certainly needed at the present stage of speculation, controversial works written, as one may say, from within the scientific camp. Nothing can be plainer than these words. "Science is the true revelation to men—the only revelation that men have ever received or can receive." "The truths of science will save you; in the sequel they will save the world; they alone can do so. They will save your soul in the only sense in which it can be saved. . . ." After such unstinted laudation, the reader will perhaps wonder how it happens that the writer is so discontented with this excellent guide. We shall presently see.

And perhaps it may be as well at once to understand our author's attitude to Positive Science. Mr. Graham is willing to receive at the hands of men of science all that they show to be the fruit of first-hand converse with Nature. Whether the theme be the genesis of physical worlds, the elaboration of living forms, the origin of man, the evolution of moral order—he does not seek to evade the conclusions which a close adherence to the rules of evidence forces upon the truth-loving mind; but he finds, on closely scrutinising the facts, that they are either largely interwoven with theories or that their discoverers regard them as self-explanatory. Either the line between Fact and Speculation is blurred, or Fact is set up as self-sufficing. Now, Mr. Graham very properly requires that there should be no mistake about what we *must* and what we *may* believe. We have seen him declare that there is no other revelation but Science, and this assertion covers the refusal to accept the deliverances of certain remarkable men, for whom special organs of intuition or knowledge have been claimed, as if they were oracles from heaven. The secrets of Nature, of the knowable universe, are only to be read by prolonged interrogation, but by the same method of patient observation and experiment are legible by all men. And yet, though Science can teach us so much, the whole region of belief is not accessible to her. Whatever be the way by which we come by it, there is much else to which Mr. Graham thinks the human mind insists upon holding fast, and which, whatever the character of our phenomenal researches, it will never surrender. How and why is

this? The answer is rather hinted at than plainly enounced in the book before us. It is, we presume, that "deep-seated in our mystic frame" there is an element identical in essence with that Ineffable Existence in which "we live and move and have our being". If Science be only crust-knowledge this is so, and that Science is crust-knowledge we take to be our author's contention. "She (Science) has long since handed over the question of the *why* of phenomena to metaphysics, reserving to herself the question of the *how*, the question of fact." To speak scholastically, Truth is bounded *materially* by positive experience, by the presentations of the Changeable, but *formally* it is enlarged to the dimensions of Infinite and Perfect Reality. Our field of cognition is ever a sphere, our own position being by turns at the centre and the circumference: at the centre because the Existent must become Object to us, is over against, remote from us; at the circumference when we become objects to other intelligences. There is no Macrocosm without a Microcosm, only chaos unless we have the principle of Order in our own breasts. And unless we are at the heart of things, what right have we to challenge the sufficiency of Science? Mr. Graham finds a philosophy based on the current theories of Physics to be a revised version of the Democritean materialism. It leaves us with no Deity but Chance, "a universe drifting nowhither". But "Chance" is no explanation, it is the absence of explanation. The metaphysical appetite will also be satisfied, and supplies the idea of Purpose. Here is the first great gap in the Philosophy of Evolution according to our author,—it has no room in its system for Purpose. But how to get the notion of Purpose without drawing upon positive experience, without in fact abstracting from a select class of human actions? The difficulty is to steer clear between that Scylla of pure haphazard and the Charybdis of transferring an attribute of finite sentient beings to the vast cosmos, to the Power indeed beneath all appearance.

Now I am prepared to go one mile with Mr. Graham, but I cannot see my way to venturing twain. The "conception of a grand Reality," so ably contended for by him, the God of Spinoza and of all poets and philosophers who have caught his spirit, the Absolute which refuses to be circumscribed either by a Materialism abstracted from presentations of sense or an Idealism abstracted from representations of intelligence, is to me, as to him, a *datum* making all experience possible; but it is a graver matter than I think Mr. Graham realises to apply the attribute purposeful to this All-one, and graver still to describe the supposed purpose as good. Mr. Graham does not seem to me to have sufficiently reflected that Purpose by itself is a barren term. What is the content of this Purpose? In what sense can it be said the Impersonal God he recognises has a purpose? To stop short with such proximate ends as "a better world on the earth . . . a higher and also a happier one," is scarcely to furnish a half-answer to the question. It doubtless is a sign of prudence in a thinker to attempt to pry no further, but is no mark of speculative wisdom. Species appear and vanish, worlds come and go, and yet

"the most important of all (divine attributes), *purpose*" remains unrealised. What is this Purpose which urges myriads of beings into consciousness, and then recalls them into the silence of the unconscious after a few years of more or less painful struggle? Deeming ourselves to be now in the world's nonage, perhaps the "higher and happier" Future of the period of maturity may seem a predestined goal; but what outlook will there be for the "crowning race" who peer into the coming night of time, when the waves of dissolution begin to be faintly heard breaking upon the terrestrial shores?

But our author's faith is large; it not only includes the hope of an Earthly Paradise, but also trust in "the good purpose of the universe". Now as Mr. Graham does not reveal to us the purpose of the universe at all, I confess my inability to gauge the appropriateness of epithets like those of good or evil. His real meaning, however, is something less than this. He merely intends to express his conviction that in the sphere of human life the social virtues are gaining ground on the selfish propensities, and that measured by a hedonistic standard it was well this earth of ours was sped on its evolutionary journey. In other words he is a declared Optimist, even to the extent of the somewhat dogmatical assertion: "The direct contrary of the pessimist proposition may be held; life for most men is not an evil; up to the day of death, if asked, they would so reply; and there is no going beyond the individual's testimony in his own case". This somewhat confident statement is followed up by the remark: "His (*i.e.* the individual's) testimony to his own experience of the worth of life is more to be relied upon than any system of philosophy which at best applies to average cases". Surely the optimistic position is not so uncertain as this, that it has to rely upon personal consciousness in preference to a system of philosophy which *at best applies to average cases*. On the same showing, then, we should admit the *liberum arbitrium indifferentiæ*, a matter on which Mr. Graham is quite content to forsake the solid ground of private testimony. But Mr. Graham seems to labour under the strange delusion that the pessimist is committed to the belief that feeling is always painful (or indifferent), that in fact he does not know the meaning of pleasure at all; for he indulges in an eloquent rhapsody to show that we may and do have hours of perfect felicity, "moments when we have seemed to hold happiness in our hands". But who doubts that? who doubts the artist's rapture at a beautiful sunset, or the quiet joy in the attainment of truth? And notwithstanding that he furnishes some well-drawn pictures of the shady side of life, it is clear that Mr. Graham does not appreciate the strength of the pessimistic position. His view of life, as indeed his whole philosophy, seems to me far too much tinged by his own poetic spirit; he cannot and will not submit to the stern pressure of Fact. Things *must* be better than they seem, there *must* be a glorious time coming; if only men will be patient, if they will but resign themselves, and so on, all will be exceedingly well. But let us keep apart our aspirations and our positive observations. Let us first of all employ the despised method of averages, and then

inquire what is the worth of our ideals. Now there is one extremely significant fact, I think, in this controversy of Optimism and Pessimism, *viz.*, the very strong tendency of mankind to place its Paradise or its Golden Age in any other age of the world than its own. Either we have left behind us the Happy Valley, or there is an Island of the Blest towards which we are sailing, and which we shall surely reach in due time. That "our America is here or nowhere" is the grand lesson of life which only the ripe sage really learns, learns indeed usually when its mastery has become valueless. Now, if the perennial expectation, the perception that "man never is but always to be blest," is a state of mind so agreeable as to outweigh the pains and troubles of the actual life, a prospective Optimist may be admitted to have the best of it; or if we are to shut our eyes to the agonies which have paved the way for our felicity, if we are to ignore the fact that hitherto in proportion to man's sympathy has been man's sorrow, then again Pessimism may be considered to be disposed of. But if, keeping a strict account, we reckon up the total cost of our possessions—the laborious initiative, the ever-renewed discontent, the Sisyphus labour of philanthropists, and the unutterable pangs which ignorance and deliberate cruelty have evoked—and can still find the pleasure reaped an ample justification; a case will be made out for "the good purpose of the universe" better than I confess it seems to me existing data warrant.

In Book I. our author discusses the various scientific cosmogonies, the origin and evolution of Man and his place in nature. He deems Natural Selection a better-proved hypothesis in Biology than the Nebular Hypothesis in Astronomy, only quarrelling with the Darwinian evolutionists for regarding their positive as a final philosophy. He rebukes the crude Materialism of Prof. Tyndall which professes to find in the solar fires all the wit and wisdom of the yet unborn earth, and thinks the transmission by inheritance of favourable accidental variations in the case of the more recondite marvels of animal and moral life "too futile an explanation to be seriously believed or entertained". It is the unlucky word "accidental" in the *Origin of Species* that Mr. Graham fastens upon; and, taking it *au sérieux*, he devotes page upon page to expressing his conviction that with only "the two shadowy and impalpable agents" "Chance and unimaginable years," we should never have been able to get our eyes, much less our eye-sight. And yet "in such ways as natural selection indicates, Nature *must* have travelled". Why then be distrustful of Nature's self-sufficiency? Mr. Graham will not have an Anthropo-Theism at any price, and yet he is evidently alarmed lest we should burn our *Bridgewater Treatises*. We exhort him most seriously to consider the stability of his foundations. If he desires to retain Spinoza's Substance, he must refrain with Spinoza from the most attenuated teleology; or if he insists strenuously on "a rational purpose," let him see to it that he do not glide back into the anthropomorphic theologies from which he thinks the world well delivered. It seems a harmless thing to grant just a little purpose

and a little planning in the mighty procession of events; but the thinnest end admitted of the anthropomorphic wedge will split up Mr. Graham's Pantheistic Monism, and strew the world again with all the forms of a gross or refined idolatry. "Chance as an explanation—and if Design be denied Chance must be offered as the explanation—is," he says, "a word expressing nothing, a word which, under pretence of explanation, affirms nothing whatever." But who is it that offers "Chance" as an explanation; who in fact could offer "a word expressing nothing"? I must also demur to Mr. Graham's parenthesis—"and if design be denied, chance must be offered as the explanation". Chance can in no case be offered because it is insignificant. Those who are Monists in fact not in name, who really admit a Substance which is neither Mind nor Matter, and have a fixed aversion to a word so clearly connoting a mental mode as Design, do not wish to offer any explanation of the world *in Mr. Graham's sense of explanation* at all. They do not think that anything is made clearer by adducing a causality which they only know in a limited class of animal actions, and which by no stretch of imagination they can conceive as bringing about the effects whose origin it is desired to trace. "If we must elect between the two agencies, Chance and Design, the latter must be nearer the truth. Design we know already in our own case to be a true shaping power, while Chance effects nothing but evil in the long run." A strange agency that which is symbolised by "a word expressing nothing," and which yet possesses the power of effecting nothing but evil! Surely, instead of affirming nothing whatever, Chance must affirm a good deal if it is productive of such serious consequences. These conflicting statements we confess somewhat perplex us. Which are we to take as Mr. Graham's deliberate opinion—that there is in truth no option for us, that we must have Design or nothing at all? or adopt in its stead a real although an evil principle? His polemic against Chance is so determined that we are almost tempted to credit him with the latter. Chance is Ahriman, Design or Purpose is Ormuzd. Darwin and the men of science revere the former, but all people of right minds will present their adoration to the good Spirit.

I regret to find myself at so great a distance from Mr. Graham on a point so fundamental, but I now come to a subject where I find the gulf between us even wider, where indeed no hope of compromise is possible. The subject is the Nature of Man. Here, as elsewhere, Mr. Graham admits so much that Science offers for acceptance, that his efforts to save the remnants of older speculations seem almost wilful perversity. He will have nothing to do with the metaphysician's soul-substance, or the Kantian noumenal Ego. Man is the highest of the animals, having a larger measure, it is true, of the Purposive Power breathing through him than the brutes, but still affiliated to them by lineal descent, a link in the endless chain of Nature. And yet for all that, though his faculties be not different in kind but only in degree from theirs, though the marvel of consciousness be the concomitant of a material brain, though mind is so

dependent on matter that bodily disorder or a deteriorated circulation will ruin the moral nature, this superior animal is still so unique that for each individual there is reserved innumerable transmigrations, conscious or unconscious, in this or other worlds. "Science has not proved, nor can she prove, that a conscious being may not hereafter emerge somewhere, in which or through which I may awaken again into being. . . . There may have been past existences without memory; there may be a future existence without memory, just as my present feeling of conscious existence is independent of memory. . . . None can tell what makes it [self-consciousness], how I have it, why it did not associate itself with another rather than me, why it did not become the conscious covering to another ego as its real core rather than mine,—why, in a word, to put it in the extremest form, it was not another being rather than I, which was born when I was born, and which slowly awoke into consciousness instead of me; and none can pretend for a moment to affirm that the same strange mystery of awaking from unconsciousness into conscious being, which has already once happened in my case, may not happen once again." And this possibility is strengthened by the Buddhist alarms about endless re-incarnation, by the hopes and fears of great poets, by the *Critique of Practical Reason* of Immanuel Kant, so much so indeed that Mr. Graham can calmly conclude: "Another existence, then, is possible, likely, certain; nay, more than one such". I do not know how other readers may be affected, but the feeling experienced by myself is one of sheer amazement. Mr. Graham is welcome to the dreams of the imaginative East, to the comfort derivable from Hamlet's famous monologue, and Goethe's personal confidence—these peculiarly subjective "aids to reflection" cannot detain us; but the *argumentum ad ignorantiam* which constitutes the appeal to the reason does "give us pause". Because I do not know how I am I, because self-consciousness has non-conscious antecedents making apparently an irrefragable chain of existence—*therefore* we are nearer the truth with the great hope than without it. Common sense says—what is Immortality without memory? Our author answers, well your Ego is not somebody else's Ego, and even though you re-emerge as a stock or a stone ("unconscious existence is also possible, as of the stone or the plant, and also, what is of much greater importance, unconscious existence of a great and grand order"), the particular stock or stone would not be some other stock or stone. It seems to him something unfathomably mysterious that he should not be somebody else. But what is the "I" that is favoured with such strange awe? Surely not the flexure of body and limb, the expression of face and feature, which differentiates human beings to vulgar apprehension; not the dexterities, disposition, bent of character, chiefly owed to my paternal and maternal ancestors, with a slight modification due to special educational influences. But let this spiritual set, these tricks of body and mind be eliminated, and what remains as the content of that "I" about whose fate the mystic is so concerned? What is there in the recognition of this barren unity of consciousness to answer "the

eternal and terrible cry of the human heart"—that cry, which it turns out is after all the provocation of this strange argument: "For we touch here at the primal and true source of the desire for another life, and of all the arguments in favour of it"? But a future without memory of the past (memory is frankly surrendered by our author), with none of the old marks of resemblance to the foregone personality, with an outward manifestation wholly alien to that by which it was perceived in this sublunary sphere, is hardly a future to repay Mr. Graham's eloquent pleading, and would surely not be valued by his large-hearted poets. Is it necessary to point out to a man of Mr. Graham's intelligence that the fact of self-consciousness can have no bearing upon this question of immortality, that the Ego which it testifies to is not even the thinnest ghost of an Ego, but a mere logical symbol, shapeless and vacant? But then there is the demonstration of the famous Kant! It is to be hoped we are not approaching an age of Neo-Scholasticism when this great name will be employed to enforce submission in philosophy as that of Aristotle in the Middle Ages, a pendant to the authority of the Fathers in the Christian Church; but on this particular subject it is fortunate that the antidote has been supplied along with the bane. Kant's Practical is so glaringly at variance with his Theoretical Reason, that respect for the thinker may best be shown by treating the two *Critiques* as unrelated products of his genius. A two-fold distrust hangs over the *Practical Reason*. It endeavours to legitimatise Ideas which the author elsewhere ingenuously confesses no logic would ever constrain him to abandon, and it surreptitiously employs conceptions whose extra-phenomenal use had been already proscribed. Is Mr. Graham prepared to go the road that Kant went? Is he prepared to hypostatise a bare logical subject? Will he quantify the spaceless and timeless realm of Noumena? And finally, which will he renounce—his Spinozistic Monism, or his Leibnitzian Pluralism? One or the other must go by the board; but even then the human heart will hardly receive the satisfaction it craves.

Book II. is devoted to a consideration of the drift of current opinion on social questions, and of the disinclination to accept the logic of Science on the part of the uninstructed many. The invaluable gain of a strenuous competition is here pointed out, and at the same time a patient hearing is granted to the statements of grievances of the less fortunate. The teaching of these chapters is for the most part admirable. The over-conservative attitude of Sociologists, whose reliance for the uplifting of the masses is on the infinitely slow progress of general forces to the disregard of the initiation of special enthusiasm, is deprecated; and on the other hand, the impatience of the Socialist who favours instant legislation as a cure for all ills is no less rebuked. Mr. Graham shows himself a far-seeing and judicious counsellor when, following in the steps of Mill and others, he advocates an improvement of the present system of individualism and competition, a more genuine trial of a really free industrial *régime* in preference to any arbitrary interference with present economic forces.

He seems to have but a dim faith in co-operative production; but co-operative distribution has not yet been pushed to the utmost, and it is hard to say what capacities for combination will be developed by the various efforts at union which are now being made in so many directions; the ever-increasing number of societies, councils, committees offering a training which will have its due effect in the industrial experiments of no distant future.

Lastly we come to our author's deliverances on Ethics and his partial indictment of the Experience Morality. On this subject he has two chapters closing the book entitled respectively "Objections to the Evolution Ethics" and "Conflict and Partial Conciliation between the New and Old Ethics," besides a few pages in the Introduction. From these we gather that Mr. Graham is discontented with all former systems and also with recent attempts to found a scientific Ethics. He seems to think that just as Religion is endangered by ignoring a Cosmic Purpose, so Virtue is jeopardised by resting content with the observed causes and effects of human actions, and that unless certain premisses be borrowed from Intuitionism the world will relapse into selfishness. It is not altogether clear how many of the objections urged to the Experiential Ethics from the side of Transcendentalism are accepted by Mr. Graham, but I think I am right in concluding that he is considerably affected by many of the difficulties raised by theological and philosophical alarmists. Let us see what these objections are. They seem to amount to this. An Ethics which traces the slow rise of Conscience, which in fact resolves the inspiration of duty into inherited tendency, really dethrones the Moral Law from its commanding authority, and allows allegiance to be lightly renounced by those who do not choose to be bound by the habits of their ancestors. Again, if virtue has been engendered by the pressure of social necessities, having no other warrant than social sanction, which is in effect to declare that might makes right, the door is opened for the equally valid principle that what man has made man can destroy. And so the Pleasurable coming to be the last word of a scientific Ethics will induce an era of social degeneracy, and the modern civilised world will tend to dissolution like the old Roman Empire, to be regenerated by the Goths of the proletariate who have not weakened their moral fibre by speculating on the origin of moral distinctions. Mr. Graham is careful to tell us that the alarm is exaggerated, and believes there is a misunderstanding at the bottom of it in the confounding of the *must* due to the social environment, and the *ought* of ideality. Man has shaped out the law of his conduct by struggle; well and good. To trace the history of the moral sentiments is an interesting study for the psychologist and the sociological student, but it is needless, if not dangerous, knowledge for the common man. "Let him accept the fact of its sacredness, as given in the feelings, in all faith." It may be quite true that the welfare of the tribe was the first moving-spring of duty, but the good of society is too large an object now, and the simple and more practical rule runs: "Veracity, justice and benevolence are now to be pursued for their own sakes".

But although the prospect seems at first sight so gloomy, though "there is real and just cause of alarm for the future of men," as we near the close of the volume we find the mists disperse and are comforted by the assurance that—"Virtue will not be destroyed. Morality, as well as religion, will remain. It will remain as an eternal necessity of our social nature and of our condition in the world." And this because "the doctrine of heredity is on the side of morality". Yet the *Data of Ethics* must not be implicitly trusted, for as regards "the utilitarianism of Spencer," "there are the most serious questions raised by it; nay, the most serious and sinister of all questions—whether Virtue has any reality beyond Convention—is once more irresistibly raised by it; and the answer to the question from the evolution point of view is not quite satisfactory". Here, as elsewhere throughout his work, Mr. Graham seems to have a fondness for raising spectres in order apparently to have the satisfaction of laying them, allowing them, however, to show themselves again from time to time, so that the simple-minded man longing for peace is kept in a perpetual state of tremor, and does not exactly know what to make of it. In fact, the impression conveyed is that our author is one of that not rare class at the present day whose love of truth is too developed to let them close their eyes to the light of Science, but yet whose memory of faded glories is so strong that they are only half inclined to trust it to the end. His Transcendentalism and his Experientialism are not harmonised; they are simply juxtaposed, and he slips from the critical to the dogmatic vein almost without knowing it. It is well to see what we have to surrender if we are to be faithful followers of the new methods, but no good purpose is served by trying to put a patch here and there on our worn-out garments. Transcendentalism has an important function in providing an ontologic base for our phenomenal beliefs, but it is simply mischievous when it intrudes into the domain of positive knowledge. We are reminded of this most forcibly in the present instance. What is meant by the question "whether Virtue has any reality beyond Convention"? Has anyone ever contended that men make virtues by a sort of parliamentary vote? Even the terrible Hobbes looked upon the moral law as a practical necessity; and surely no one in these days of historical inquiry is likely to antedate the age of deliberate legislation, or even to imagine that the rule of conduct was shaped in the student's cell. Well then, if we are indebted to social needs for all the codes of Duty this world has ever possessed, why doubt that the same causes will be sufficient for the future? Why attempt to make the futile division between the Divine and the Human, the *voces populi et Dei*, which has given such an artificial air to some of the best thinking of the past? For as little as there can be a private Ethics, so little can there be a conflict between the Ethics of Utility and the Categorical Imperative. The Ideals of Truth, Justice, Charity, reduced to the concrete, are reals which the social spirit inevitably does homage to, although with ever plainer expression, according as the various members of the social system attain a more

intimate union. The error is, and we think Mr. Graham is not free from it, in laying an exaggerated stress upon the "individual," as if the individual were truly independent. The unreality and the inflexibility of the Intuitional Ethics, with its unlimited accountability and Absolute Morality, are the result of that over-strained conception of individuality which fails to discern the seat of Human Unity in the Body Politic. No wonder that if the transient Ego is exalted to this sublime eminence a strain is put upon his powers too great for him to bear. Morality is safe, then, simply because Morality means the voice of the Common Nature; it is a witness to an underlying community which cannot be dissolved before Humanity itself perishes. And instead of reference to the origin of moral ideas weakening this common feeling, it is a good aid to its realisation; for nothing is plainer, from what is now known of barbarous tribes, than that a common faith and practice is as old as private fancy and self-seeking, that it is as reasonable to imagine a *régime* of Egoism as to expect a suspension of the law of gravitation. The *Data of Ethics* will strengthen the sense of obligation which individualistic Intuitionism would have weakened long ago if speculation could have effected it.

A word before I close as to the relation of Mr. Graham to contemporary thought. In reading his book I am constantly reminded of Dr. Eduard von Hartmann. The stress laid on Purpose is a feature of the latter's philosophy as important as his revised Pessimism. The difference is, however, that von Hartmann's Teleology is a Cosmic Teleology, whereas Mr. Graham with an Englishman's modesty fights shy of finality, and thinks he has done enough for the salvation of an unspiritual Science when he indulges in generalities which seem like an echo of Mr. Arnold's strain "the Power that makes for righteousness". I hold von Hartmann to be here not only the bolder but the deeper thinker. Mr. Graham, it is true, is not a convert to Pessimism, but he is sufficiently impressed by it to rest its final rejection on its practical danger rather than its theoretical inconclusiveness. "The pessimism of the philosophers in any case is not a true gospel. It does not contain the true word of life for man to-day in Europe; and even if it were wholly true, it would be the kind of truth which it does not profit to insist upon. Unless with the diagnosis of the disease there is also the prescription supplied, as by Buddha, there is no good end served by preaching pessimism." Now, nobody wants to "preach" pessimism, and if anybody tried to do so to-day in Europe, he would certainly obtain a poor congregation; but I must protest against the suggestion that the teaching of philosophy should accommodate itself to the supposed cravings of the age, and also that the theorist is bound to be practical likewise. But I am astonished at the remark that the pessimist's prescription must be the asceticism of Buddha. A remedy which would only have the effect of removing the most clear-sighted from their labour of alleviating suffering, and so permit a more prolonged agony to the deluded masses, hardly recommends itself as a measure of real philanthropy. The supposed

conflict between the Utilitarianism of Mill and the Ethics of Spencer also reminds one of the contrast between Social-Eudaemonism and Progress enlarged upon by the Berlin thinker, but the latter would hardly say that there is "opposition wide as the poles between the new and the old utilitarianism". If "the happiness of the species," qualifying happiness by "attainable," be the aim of the old utilitarianism, then there is no conflict between the Ethics of Utility and the Ethics of Progress. The happiness of the aggregate of contemporary individuals no doubt is an aim directly in conflict with a principle which requires frequent disregard of seeming philanthropy, but if the well-being of an Organism ever changing in its parts be the aim, then it may be perfectly true that the "service of Humanity" and the "law of struggle" are one. The antagonism belongs to a different speculative basis, no other than the despised Pessimism, according to which Progress is a higher end than Human Happiness; and the circumstance that Mr. Graham does find the antagonism so great, and yet is so loath to abandon the Evolution-principle, is of good augury for his reconsideration of the complacent assumption that Science is and *must be* optimistic.

W. C. Coupland.

Symbolic Logic. By John Venn, M.A., Fellow and Lecturer in the Moral Sciences, Gonville and Caius College, Cambridge. London: Macmillan, 1881. Pp. xl. 446.

This is not the exposition of a new system or a text-book of an old one; it is an essay on the conditions of any symbolical system of class-term logic, with especial reference to Boole. The essentials of Boole's work (Probability apart) might very well be learnt from it, but the chief end is never the mere unfolding of a method but always the critical examination of its relation to its principles. The historical element, though subordinate, is a remarkable feature. Probably Mr. Jevons revealed to most persons interested that Boole had one great precursor;[1] but Mr. Venn finds that starting from Leibnitz and culminating in Lambert there was in the last century a sort of symbolic school.

Mr. Venn does not formally define his subject. It is easily distinguished from the old logic by using an arbitrary notation for form as well as matter, that is for the relations between terms as well as for the terms (pp. 32 ff.). But I do not know that it can be distinguished from such systems as De Morgan's except by saying that it must lend itself well to trains of reasoning and enable us to find the relation of any term to any selection of other terms. On the other hand it deals with no relations but those of belonging to the same or different classes, with whatever extensions of interpretation the laws of combination among its symbols will allow. All depends on these laws, except that the internal conditions on which they them-

[1] *Principles of Science*, Preface to the Second Edition, pp. x-xiii.

selves depend allow a little external choice as to their precise form. Hence controversy: chiefly as follows.

Boole showed that in logic $xx = x$, but he wished his formulas to be true of 1 as well as of 0 in the usual sense of these, and left it to Mr. Jevons, who ignores 1, to improve on a hint of De Morgan's and show that we might further with equal accuracy take $x + x = x$, which answers to the unexclusive use of *or*, thereby introducing into logic a duality like those of modern geometry. Mr. Venn follows Boole in the exclusive interpretation,[1] chiefly for the speculative advantage of keeping as much as possible of the analogy with mathematics generally. He is doubtless right in maintaining (p. 385) that the speculative point of view is the important one, on the ground that the solution of problems is not useful directly; but when we are comparing general methods, practical efficiency and rapidity are a strong presumption of an appropriate and, from a speculative point of view, instructive procedure. From the same point of view, to have furnished ground for the relation of duality seems almost decisive in favour of unexclusion. For some time indeed it was only matter of faith that a method as complete as Boole's could be constructed with $x + x = x$. But Schröder's *Operationskreis* nearly superseded faith by sight in 1877; for though his processes might sometimes perhaps be more elegant than they are, I cannot admit he has failed in adapting Boole's formulas. It is not in itself damaging to say, as Mr. Venn does (p. 386), that his use of them obliges him to insert a correction, when the "correction" can be applied as regularly and consistently as Boole's own $xx = x$. To say that they are no longer the same appears to me to reduce itself to an excessive compliment to Schröder's originality.[2] At the same time I allow that the unexclusivists have exaggerated their case. Mr. Jevons claims for $x + x = x$ a sort of legitimacy I do not understand, and his treatment of the connected questions is hard to defend from Mr. Venn's criticism (pp. xxviii., 39). Schröder too seems to argue that it is arbitrary to treat it differently from $xx = x$. But ordinary thought knows nothing of dual correspondence. We make a complex term more intelligible by expressing it as an aggregate of compounds, and less so by expressing it as a compound of aggregates. So it is with sums and products in arithmetic, and this agreement between arithmetic and the logic of speech is a psychological strong point of the exclusive system. But psychology goes for nothing in a symbolic method.

There is a choice again as to the copula. Shall it mark coex-

[1] Ch. ii. pp. 39-47, 51-54, 59-63; ch. xix., pp. 380-389.

[2] Subtraction he seems to me to place relatively where Mr. Venn places division; and in criticising him on this point (p. 387) I think Mr. Venn has applied, by an oversight, to his logic what belongs to his comparison between logic and arithmetic. Mr. C. S. Peirce had already given a formally complete account of the inverse operations, in the *Proc. of the Amer. Acad. of Arts and Sc.*, vii. 252-4 (1867).

tensiveness or inclusion? Shall we say that $z = x + \theta\bar{x}y$ or that z includes x and is included in $x + \bar{x}y$? Mr. Venn follows Boole and my prejudices are in that direction; but he hardly discusses the point (p. 376 ff), and I am not prepared to do so. Indeed I suspect experience is inadequate as yet.

In both questions it seems to me a mistake from which Mr. Venn is not quite free to go a step out of our way to secure harmony with the mathematics of quantity. These things take care of themselves. No one will ever devise a logic of classes which will not be closely analogous to the older algebras. As to Boole's, although the charge that it is mathematics rather than logic was virtually refuted in advance by the directness and elegance of its interpretations, an appearance of justification was kept up by the doctrine that its processes were less interpretable than its results. This, though not without countenance from Boole himself, has been refuted, perhaps, by Mr. Macfarlane and finally, I hope, exploded by Mr. Venn (chs. iii., ix).

By the equational procedure, and therefore virtually by the other, any data (so far as they lead to universal propositions) are made to deny collectively a part of the universe of discourse, and therefore severally every part of this part, and in these denials the import of universal propositions is taken to reside (p. 141). It might have been thought that Mr. Jevons had exhausted the significance of this, but Mr. Venn's readers will find that it is not so. Its most conspicuous result in his hands is a diagrammatic representation of propositions[1] by drawing a closed figure for every elementary symbol, so that the boundary of each cuts in two every compartment made by the intersection of the rest, and shading out the compartment answering to every denial. This is a great help and, by the powerful effect it will have on beginners, it may be expected to give a serious advantage to what Mr. Venn calls the compartmental view of logic, as distinguished from the old predicative view and from the view implicit in Euler's diagrams (ch. i). A less conspicuous though more obvious effect of the reduction of universal propositions to the negative form is the necessity of explanations touching their existential import if any (ch. vi., vii., xvi., and elsewhere). It is plain that denials of existence cannot simply affirm the existence of anything, though of course they always affirm that what they do not deny is all existence, by which, if they deny an aggregate, we learn nothing about any given aggregant. Therefore (if we write $\bar{y}$ for not-y) when the symbolic logician says $x\bar{y} = 0$, he means that all x is y, if there is any x, which he does not thereby affirm. If this has to be affirmed he will affirm it separately, say in the form $x > 0$, just as particular propositions, which are wholly existential, may be put in the form, $xy > 0$. It must be admitted, however, that existential propositions do not fit very well into the system, and there is a temptation to hand them

[1] Explained in ch. v. and applied elsewhere, especially in ch. xii., "Miscellaneous Examples".

over to the theory of probability, to which undoubtedly they also belong. Mr. Venn resists this temptation and puts them in the form $xy = v$, this v being a conventional symbol for a class greater than none and also, for the sake of symmetry, less than the universe. This seems to show that if Mr. Venn consents to take account of such propositions it is not because $xy > 0$ is the contradictory of $xy = 0$. He never looks at particular propositions in this light: indeed I cannot think he has escaped confusion in the matter of contradictories; at least, under the head of "Generalisations of the Common Logic," pp. 324 ff, he does not stick to the simple definition of a contradictory as that which contradicts and does nothing else not therein implied.

In the case of existential import, instead of expressing our meaning we have been interpreting our expressions. There are two other interesting instances in which this inverse process is performed or discussed: "class symbols as denoting propositions" (ch. xviii.) and "class symbols" turned into symbols of intent (ch. xix., pp. 390-399). The former concerns propositions about propositions and the problem is solved by Mr. Venn in two ways, first by considering propositions as answering to classes in a universe of possibilities and thus making the logic of propositions a logic of classes in principle, secondly by taking propositions as expressed by equations and showing how to express propositions about the propositions by equations depending on the equations, and thus connecting the proposition system with the already developed class system directly. I believe his processes and his explanations of them to be perfectly correct, but I find an obscurity in the subject which he has not wholly removed. A proposition must be true or false and the class of possibilities represented must be all or nothing. So we may affirm it by writing $x = 1$, and the contradictory will be $x = 0$. By the already developed class system a proposition may be affirmed in the form $x = 1$, but the contradictory is $x < 1$, not $x = 0$. If now, for a proposition about two propositions, we take a universal negative as the most symmetrical in form, $xy = 0$ will express that if x or $y = 1$ the other $= 0$, while if one $= 0$ the other may be anything: this is as it should be; but if x or y is neither 1 nor 0 the other is not quite free, it cannot be 1. Something seems to go uninterpreted, and I suspect it was to exhaust his symbolisation that Boole devised his interpretation in terms of time, and not for the sake of an arithmetical basis. In its results indeed a logic in which the terms are propositions may be arithmetical as a class logic cannot be, for in a naught-and-one algebra the law $xx = 1$ is true already.

With respect to the possibility of a symbolic logic of Intent, I cannot exactly disagree with Mr. Venn's generally negative conclusion: but I find his discussion less suggestive than usual. By the way, it ought to be pointed out that the question is not merely one of interpretation: we do not care for a special application to the sort of things called attributes, and to the particular classes of them which make the intents of particular terms: the problem is to find general relations between extent and intent in the same matter. It is agreed

that intent consists of attributes all belonging to everything within the corresponding extent and not all belonging to anything without it. But of all such attributes, or of what sort of selection? Mr Venn, as I understand him, finds all opinions represented among logicians, from that which stipulates for all such attributes to that which is content with any selection satisfying the conditions; but he says that, for his purpose, almost any of these views, except the extreme ones, will answer equally well (pp. 390 ff). His purpose is to show that the thing cannot be done, unless to a trifling extent: the meaning is therefore that the problem may be possible if intent is supposed to include all the common attributes or, indifferently, any distinctive selection of common attributes, but that otherwise it is all but impossible. The former proposition is barely suggested: the latter takes up several pages; but I cannot help thinking it might be better proved in as many lines, because a specified selection of attributes constituting the intent answering to a given extent must be determined by the conditions of the particular case, and perhaps by conditions of a metaphysical sort; it must be, from Mr. Venn's point of view, material, extralogical. Clearly, then, the only chance of obtaining general relations is this: find the general relations, if any, which would exist if 'intent' were understood according to either of the 'extreme' views; any equations expressing them will determine inequations true of any given intents. But just because so widely applicable, such a result would at best be extremely vague and probably as good as none. Mr. Venn's way of proving the problem impossible is by objections of detail. I venture to leave these undiscussed because, in proportion as I perceive them to be precisely relevant, I think they are vitiated by what I think vitiates other arguments which I have seen on this matter, the tacit assumption that if propositions in intent could always be found corresponding to given propositions in extent, negative propositions would be represented by negative and particular by particular. Yet if anything is especially familiar in the relations between extent and intent, is it not their inverse variation? This holds not indeed with exact, but with approximate or statistical regularity. To *none* then should correspond not *none* but *the universe*, approximately, and to *something*, accordingly, *less than the universe*. In fact, I believe it will be found that a correlation of the form so often noted above exists with certain modifications, I do not say between extent and intent, but between collections of things and corresponding collections of their attributes, provided the latter collections are complete as well as the former. Mr. Venn himself, in an unexclusivist humour, remarks (p. 397) that "'extensive multiplication' corresponds to 'intensive addition'". The imperfect convertibility of this proposition is connected with the incompleteness of the collection which constitutes the intent of a term, but the matter is affected by other complications which make this an unfit place for discussing it further.

So much for the principles of expression and interpretation. I have given up much more space to them in proportion than Mr. Venn

has, because, while they belong as essentially to the subject as anything in the book, they are much more matters of discussion than their applications, which fill the central chapters, viii.-xv., on Development and the Theory of Equations. A critic's chief business with these chapters is to recommend them to those who wish for clear and connected views of the method and even of the principles already discussed. They assume no previous knowledge in the reader, but I am mistaken if readers with previous knowledge will not add to it considerably. The exposition may be said to be inductive; I mean that in each branch of the subject Mr. Venn elicits a method from a simple case and generalises it into the definitive method. In a chapter (xii.) of "Miscellaneous Examples" he shows how Boole's methods may be abridged in most actual cases. This Boole quite neglected or avoided, unfortunately for his credit with some readers, and I think even Mr. Venn exaggerates (p. 317) the prolixity of the general procedure; but it is a special advantage of Mr. Venn's manner of exposition that it brings out the difference between solutions more or less ingenious of particular problems and a general method which, however tedious, will certainly solve every possible case. He does not inquire whether Boole's work has been abridged by the general methods of later symbolic logicians.

It may seem a small matter, but there is much instruction in Mr. Venn's treatment of fractional expressions (ch. iii.). As I have said, he shows that they are not uninterpretable. Of course unless all x is y, $\frac{x}{y}$ is uninterpretable, just as $y - x$ is: but if so it denotes a real class which, when restricted by y, that is, reduced to what it shares with y, becomes x. The class thus limited is partly indeterminate; we only know that it includes x and is included in $x + \bar{y}$; but the result of an inverse operation usually is in some way indeterminate. The extreme case in all respects is the expression $\frac{0}{0}$: under the general rule this means a class which restricted by 0 becomes 0, in other words any class whatever. This is quite satisfactory, provided it is understood that in particular cases the range of $\frac{0}{0}$ may be restricted; thus if $x = \frac{0}{0} y$, determinate values of x and y will not indeed determine $\frac{0}{0}$ but will require that it include xy.

Mr. Venn makes $\frac{0}{0}$ his typical and primary expression of the indeterminate. As an indeterminate coefficient may be introduced independently of the inverse operation of division, I prefer a conventional class symbol: this has in its degree the advantage of generality over $\frac{0}{0}$ as $x = \frac{0}{0} y$ has over $x = xy$ (p. 158). Indeed I suspect that the use of a sign which looks more like a symbol of relation than a class term has almost led Mr. Venn to make it part of the copula in defending Boole (p. 173)

from the odious imputation of adopting the quantification of the predicate. With Boole there is no predicate to quantify, but this is just because his copula connects two quantified terms.

It remains to say something of Mr. Venn's comparisons of the system he adopts with older organisations of thought, that is, chiefly with the historical Aristotelian, but also, as he is careful to keep us aware, with the logic implicit in language. Perhaps this part will be the most interesting to many readers, but it is not the most essential to the subject and it is the part I am least prepared to do justice to. Ch. i., "On the Forms of Logical Proposition," is a typical specimen: it reproduces a paper in MIND for July 1880, but to the comparison of systems of proposition it adds an account of the forms of syllogism properly representable by Euler's diagrams. This (p. 22) is the correct way of describing them, not as forms of syllogism admissible under the corresponding "five" forms of proposition: otherwise it would be an unaccountable piece of conservatism to reject for ambiguity those forms which give less than five conclusions. In other chapters the question of existential import gives repeated occasions of contrast between the old instruments and the new. On this and other points it ought to be unnecessary to say of a writer so far from being one-sided as Mr. Venn that he does not wish to see Aristotle superseded by Boole. "Some of the most instructive portions" he says (p. xxv.) "of the common system are just those which Symbolic Logic finds it necessary to pass by almost without notice": in what is common to both, the old point of view has its own advantages, and among these he counts its "close dependence upon popular speech," thus turning the tables on Mr. Sweet and Mr. Sayce, but I venture to think accepting too much from them as to the fact. Conversion and Opposition are among the things for which he values the old system; but he finds places for them or their analogues in the new. Conversion becomes the solution of the problem "given y in terms of x, find x in terms of y". On Opposition, as I have intimated, he does not satisfy me, but the discussion is suggestive, at least. In parting from the old logic, I will take up a little challenge addressed to it. Ulrici, it seems, finds nothing in Boole but a translation of the old logic into mathematical formulas. "One would like," says Mr. Venn, speaking of elimination, "to see the original of the translation in the case of this formula $f(1)f(0) = 0$" (p. 303, n). It is the conclusion of a syllogism in Celarent, Cesare or Camestres, the term $f(1)$ standing in the negative premiss and $f(0)$ in the affirmative. This is obvious from Boole's point of view, but it is also manifest from the older. For if M is all, the premisses only say that P in Celarent or Cesare is naught, and if M is naught they only say that S is naught; but these premisses are taken to be summed up in $f(M) = 0$, therefore $P = f(1)$ and $S = f(0)$. Ulrici ought to know best whether, given a middle term and a wilderness of propositions, he is ready with an infallible way to find extremes for premisses in A and E exhausting such data.

Many of the points taken in these pages I have discussed with the

author in various ways. This makes it easier for me to discuss them here, but it is not favourable to the objectivity of my judgment on the value of the work. However there can be no doubt of its thoughtfulness and suggestiveness or, in essentials, I think, of its soundness and accuracy. I need not describe to readers of MIND that sort of humorous detachment which keeps a man from losing himself in his subject: this book is not, I think, absolutely free from what is a weak side of that quality, an almost sceptical suspicion of formulas which leads occasionally to acquiescence in their inadequacy when less acuteness and industry than Mr. Venn's would be enough to get to the bottom of a difficulty. But the want of the quality itself has before now wasted good work, and I should think its presence will much increase the influence of Mr. Venn's expositions and discussions: it certainly contributes to their value.

C. J. MONRO.

Mathematical Psychics: An Essay on the Application of Mathematics to the Moral Sciences. By F. Y. EDGEWORTH, M.A., Barrister-at-Law. London: Kegan Paul & Co., 1881. Pp. viii., 150.

Whatever else readers of this book may think about it, they would probably all agree that it is a very remarkable one. The fearless manner in which Mr. Edgeworth applies the conceptions and methods of mathematical physics to illustrate, if not solve, the problems of hedonic science, is quite surprising. As the invisible energy of electricity is grasped by the marvellous methods of Lagrange, so may the invisible energy of pleasure admit of similar handling. The soul is likened to a steam car moving upon a plane in a direction tending towards the position of minimum potential electro-magnetic energy, but with inconceivably diversified degrees of freedom. The book throughout proceeds upon the conception of Man as a *pleasure-machine;* but the great difficulty seems to consist in the fact that society is a great aggregate of such machines, the collisions and compacts between which "present an appearance of quantitative regularity in the midst of bewildering complexity resembling in its general characters the field of electricity and magnetism" (p. 15). It would be a great mistake, however, to suppose that Mr. Edgeworth's investigations, though stated in so daring and apparently erratic a manner, are devoid of scientific basis and exactitude. The book is one of the most difficult to read which we ever came across, certainly the most difficult of those purporting to treat of economic science. But it may, nevertheless, be recognised in the future as containing new and most important suggestions. Starting from such empirical bases as Fechner's law, Wundt's curve of pleasure and pain, or Delbœuf's formulæ, Mr. Edgeworth undertakes to determine the distribution of means and of labour which shall be conducive to the highest aggregate of well-being. Some of the conclusions drawn are very curious, but after a little consideration will probably commend themselves to the common sense of the reader. Thus (p. 66) the

distribution of labour as between the equally capable of work is equality, and generally is such that the most capable of work shall do more work—so much more work as to suffer more fatigue. The general tendency of Mr. Edgeworth's philosophy is towards a hierarchy of social ranks rather than rigid equality. Considering that the highest in the order of evolution are most capable of education and improvement, he holds that in the general advance, the most advanced should advance most. It is deduced that population should be limited, so that pleasure-giving means should not be too much attenuated. But the hedonical conclusion on this head is not necessarily of the same extent as the Malthusian. A good specimen of the kind of problem which Mr. Edgeworth has the courage to attack is stated on p. 69, namely—"*Not* assuming that all sections (of society) multiply equally, to find the average issue for each section, so that the happiness of the next generation may be the greatest possible". The general answer, if we gather it rightly, is that the average issue shall be as large as possible for all sections above a determinate degree of capacity, but zero for all sections below that degree. The last deduction has been carried into effect in poor-houses since 1834, but it is to be feared that outside of the poor-house the returns of the Registrar-General would show great divergence from Mr. Edgeworth's megisthedonic curves.

The remarks upon the hedonic bearing of our social institutions are often very interesting. Thus Mr. Edgeworth evidently regards the custom of family life favourably as compared with communistic education, because it secures for the better born better education. He also concludes that "account being taken of existing, whether true or false, opinions about the nature of woman, there appears to be a nice consilience between the deductions from the utilitarian principle and the disabilities and privileges which hedge round modern womanhood" (p. 79). But we do not find that the author furnishes any explanation of the very different position of women in the lower races, from which, of course, the higher races have emerged. Among the Australian aborigines, for instance, the husband makes the wife carry all the burdens, and knocks her on the head if she declines or flags. The anthropologists have hardly succeeded as yet in reconciling with theory the unfortunate position of women in primitive society.

The general conclusion drawn from these speculations is worthy of notice (p. 82). "While we calculate the utility of pre-utilitarian institutions, we are impressed with a view of Nature, not, as in the picture left by Mill, all bad, but a first approximation to the best. We are biased to a more conservative caution in reform. And we may have here not only a direction, but a motive, to our end. For, as Nature is judged more good, so more potent than the great utilitarian (Mill) has allowed, are the motives to morality which religion finds in the attributes of God."

To the principal text of the Essay there follow appendices "On Unnumerical Mathematics," "The Importance of Hedonical Calculus,"

"The Formulæ of Exchange," "The Errors of the ἀγεωμετρητοί," and even the Freedom of Contract as illustrated by the present crisis in Ireland and the Trades' Union question. These appendices are full of suggestive remarks, and are generally more ready of comprehension than the body of the Essay.

There can be no doubt that in the style of his composition Mr. Edgeworth does not do justice to his matter. His style, if not obscure, is *implicit*, so that the reader is left to puzzle out every important sentence like an enigma. It is probable that most of the propositions are worth puzzling out, and that they would be puzzled out if some great pecuniary matter like a great lawsuit or the design for a great engineering work depended upon their comprehension. But social science has not yet taken such a rank that students feel bound to master any new truths propounded; and it is a misfortune, therefore, that a book, which at all events purports to contain a new science, should be such hard reading. Students of the book will probably be divided into two widely separated classes:—those who hastily set it down as nonsense; and those who, allowing that it is an uncouth and even clumsy piece of literary work, see in it unquestionable power and originality. Now and then, indeed, we come across a sentence or a paragraph in Mr. Edgeworth's work showing much command of language and no slight elegance and picturesqueness of style. But immediately again we fall among enigmas. Would it be too much to ask of Mr. Edgeworth that when he prepares his next work he will endeavour to save the labour of his reader, even at the expense of his own labour? In fact, may we not apply to the author his own theorem already quoted showing that the best distribution of labour "generally is such that the most capable of work shall do more work"?

W. S. Jevons.

Fichte. By Robert Adamson, M.A., Professor of Logic in the Owens College, Victoria University, Manchester. ("Philosophical Classics for English Readers.") Edinburgh and London: Blackwood, 1881. Pp. 222.

A special interest and importance attach to the present volume of the "Philosophical Classics," because it is the first work in English which professes to deal with Fichte primarily and distinctively as a philosopher. Dr. William Smith's translations of the popular works, and the eloquent Memoir by which he accompanied them, have made Fichte's figure tolerably familiar to many, it is to be hoped, as a man, a patriot, and a preacher of ethical and social reform. But the philosophical groundwork—the text of which these phases of his activity were but the application—is suggested there rather than developed. It has, indeed, been Fichte's fate, as Prof. Adamson points out, not in England only, but also in his fatherland, to be remembered rather as a patriot and an impassioned preacher than as a philosopher. It was fitting that the "Philosophical Classics" should endeavour to

remove this anomaly; and it is satisfactory to note that Prof. Adamson has not yielded to the seductions of popular treatment, which, in Fichte's case, were extremely strong. He has rightly judged that it is with Fichte in his fundamental quality as thinker that his expounder has to deal. Certainly, by so doing, he has sacrificed much that might have recommended his volume to "the general reader"; but this was inevitable, if the scientific principles of the *Wissenschaftslehre* were to be discussed at all. There will be but one opinion as to the admirably thorough fashion in which Prof. Adamson has done his work. In the Prefatory Note he says that the volume "has no pretensions to be regarded as more than an introduction" to Fichte's philosophy. This is true, of course, in the sense that the limits forbid elaborate analysis; but it is an introduction by one who has a survey of the whole field, and who brings all the different parts together into a consistent whole. Prof. Adamson has laid the philosophical public under a distinct obligation; and those who have studied the original will know best the value of his concise and carefully-balanced statements.

The Life is succinctly and gracefully told, but does not call for special remark. The view taken of Fichte's character and of his conduct in the different circumstances of his life coincides in the main with that of Kuno Fischer in his *Geschichte der neuern Philosophie*. That is to say, it is more judicial than Dr. Smith's. It does full justice to the nobility of the man, but it does not ignore a certain hardness of nature and limitation of view, which passed at times into obstinacy and ethical pride. Fichte's stormy and short-lived Rectorship at Berlin disclosed some of these less pleasant qualities as well as his notorious unpracticality. As Solger plaintively remonstrates:—"When he proceeds in all matters, the greatest or the least, from the axiom that the idea has selected but one organ—*viz.*, Herr Fichte himself—it does appear to me that individuality becomes simple despotism."

The Philosophical part of the volume begins with chap. v., which is entitled a "General Idea of Fichte's Philosophy". It rather aims at preparing the reader for Fichte by a comparison of the psychological and transcendental—or, as they may be called, the English and the German—methods of conceiving the philosophical problem. This is, in my opinion, perhaps the most valuable and instructive part of the book. The reason of the necessary inadequacy of the psychological method has rarely been so plainly and forcibly put. Assuming that the function of philosophy is "to render intelligible the whole of experience," Prof. Adamson points out that English philosophy starts with the assumption of two spheres of existence, an inner and an outer. The generalised results of an examination of the latter set of facts form the natural sciences; the same methods of observation applied, in psychology, to the phenomena of the inner life are supposed to give us a philosophy of experience. In opposition to this view Transcendentalism insists that psychology is entirely on the level of the natural sciences, and that its conclusions "have validity only

in subordination to the abstraction from which we start" (p. 111). That is, if we assume the division of experience into subjective and objective, it gives us a certain amount of information about the laws—the recurring order—of subjective facts. But the nature and meaning of the distinction itself have not been explained, and the need of this explanation is, according to Prof. Adamson, "the special lesson of the critical philosophy". "While in words we appear to assert that the two orders of facts make up all that is, we have in reality placed alongside of them, in a quite inexplicable fashion, the thinking subject or mind, a *tertium quid* which certainly stands in need of some explanation." The nature of intelligence, then, as the ultimate for which the distinction exists, remains to be explained, and this is the special task of philosophy. In other words, philosophy has to determine the nature of the relations which constitute the distinction, and which render possible the synthesis of subject and object in intelligence. This involves the "criticism" or evaluation of the different categories or modes of relation which science employs, and their successive rejection as inadequate to express the relation of intelligence to experience. The notions in which we finally rest will evidently constitute an explanation of what we mean by intelligence or intelligible experience. Applying this to Berkeley, Prof. Adamson finds in him "the true note of the transcendental method," in so far as he refuses to admit the abstraction of matter or things apart from the unity of conscious experience. But Berkeley takes consciousness as equivalent to "the isolated states of the individual thinker," and so God becomes for him only another name for things-in-themselves. Inner and outer—the finite spirit and God—are related, in his system, as two substances that mutually determine one another. This notion of reciprocity or mutual mechanical determination is the highest category to be reached by taking the two spheres separately; but it has no meaning when used to formulate their unity in experience.

Chap. vi. proceeds to specify Fichte's problem still further. The fundamental distinction which he draws between Dogmatism and Idealism is first explained, and then his relation to Spinoza (by contrast) and to Kant (by direct descent) is indicated at some length. Prof. Adamson errs here, if at all, by being too abstract. Fichte's own statement of the antithesis between Dogmatism and Idealism in the "First Introduction to the *Wissenchaftslehre*" is so clear and vigorous that it might have been more largely drawn on. It is difficult, too, to put the contrast between the *Wissenschaftslehre* and Spinozism more forcibly than is done by Fichte himself at the end of the first part of the *Grundlage*. Taking Spinozism as his example of a consistent Dogmatism, he explains Dogmatism there as the attempt to *transcend* the Ego and reach the higher abstraction of Being or Thing; whereas Critical Philosophy is, in its very nature, *immanent*, making no effort to pass beyond the circle of intelligence. The distinction between Kant's philosophical method and Fichte's is very clearly drawn by Prof. Adamson on p. 135. In both the supreme notion—that to which all others are related—is self-consciousness.

But "the method of procedure may be either an investigation of the idea of self-consciousness, the determination of the conditions under which it is possible, and the evolution in strict sequence of the elements which are embraced in it; or an analysis of knowledge, of experience, as it presents itself in ordinary empirical consciousness, and the determination of the features in it due to the presence of this central unity". The first of these methods was Fichte's, the second was Kant's. The criticism of Kant which follows dwells on the disconnected way in which, as a result of his method, he presents the different factors of knowledge and the different spheres of experience; and draws the conclusion that, in "the ethical idealism with which the Kantian theory closes," we have the point from which the theory presented itself to Fichte as a unity. Prof. Adamson is undoubtedly right in insisting that the notion of a world of ethical ends is the real noumenon of the Kantian system, and that Kant's thought has not been fully grasped by anyone who fails to perceive this. Kant might have said with Fichte—"Our world is the sensualised material of our duty". But, at the same time, his method makes it impossible for him to bring the world of sense and the world of duty together. The material remains separate from the duty (the form) which is to be realised in it; it is supplied, to use an expression of the *Critique of Pure Reason*, "anderweitig," from another quarter, and so remains alien to the purposes which are to be fulfilled in it. Hence there seems some danger of creating a false impression when Prof. Adamson throws the blame of the dogmatic interpretation of the thing-in-itself on Kant's "incompetent followers". We cannot distinguish too carefully between our philosophical criticism of Kant and our historical interpretation of his system. There can be no doubt, even if we had not Kant's explicit declaration, that for historical Kantianism the *Ding-an-sich* remains what Jacobi called it, a presupposition without which we cannot find our way into the system.

The account of Fichte's starting-point and "First Principles" is given with much sureness and breadth. The 25 pp. which are devoted to "Development of the System" suffer, as might be expected, from compression; but the most important point—the connexion between the theoretical and the practical section of the *Grundlage*—is made abundantly clear. Prof. Adamson lays deserved stress on the fact that the practical Ego is the source of reality. In the theoretical part the necessary notion of consciousness is expounded, but we are dealing only with knowledge till we reach the practical part; and knowledge, as Fichte says, "just because it is knowledge, is not reality". Reality, he says, arises for the Ego only in feeling, and self-consciousness as a *fact* does not exist except through the impeded striving of the practical Ego and the self-reflection which is thereby caused. This "Anstoss" is the "necessary circle" which Fichte offers as a deduction of the matter of sense which Kant had merely assumed. The fundamental principle of his philosophy is not reached, therefore, till nearly the end of his exposition.

In his discussion of the later works, Prof. Adamson takes the view

of a continuous development and radical identity of Fichtian thought from first to last, thus siding with I. H. Fichte, Löwe, Harms, and Kuno Fischer against critics like Erdmann and Schwegler. While admitting that only the first stage of Fichte's speculations has had any historical influence, he still sees in the second "the true and final form" of his philosophy. It seems to me that the key to the difference of the two positions—for a certain difference is admitted—is to be found in Fichte's change of attitude towards what he called at the earlier stage the Ego as idea or completed self-consciousness. In a remarkable passage in the Second Introduction (translated by Prof Adamson on p. 151) Fichte draws the distinction between the Ego as "Begriff"—abstract self-consciousness—and the Ego as "Idee"—as self-consciousness in which the whole world is rationalised and determined as the matter of egoity ("Materie der Ichheit"). He adds significantly that the Ego in this sense exists *only* as "Idee"; it is a "Sollen," unattainable, but always to be pursued. This is thoroughly in accordance with the general tenor of his early Idealism, which he defined as not dogmatic but "practical"—not determining what is, but what ought to be. But in his later philosophy, as a consequence of the increased attention which his expulsion from Jena led him to bestow on the religious consciousness, this "practical" standpoint was surmounted. The Ego as Idea re-appears in the later works as the Divine Idea of the world, and, as such, has necessarily an objective validity attributed to it. In a somewhat broken and mystical way, therefore, Fichte realises in these writings the Hegelian view of the world; and this is, perhaps, the reason why hard and fast Hegelian critics, intent on the symmetry of historical development, are inclined to ignore this phase of his speculations. But it must always be admitted that the realisation is only broken; and Fichte's separation of the Absolute as predicateless "Being" from its manifestation appears to me deserving of heavier condemnation than Prof. Adamson visits it with. Such a separation is the root of all transcendent speculation and mysticism; so far as it is maintained, it must be considered a direct sublation of the standpoint of immanent Criticism taken up in the *Wissenschaftslehre*. In this respect I cannot but think that neither Fichte nor Schelling fully realised the perfect correlation of the two terms, essence and manifestation. Prof. Adamson admits, however, by his apology for Fichte's method of statement that it is not altogether satisfactory; and in the Introductory Remarks indicates his opinion that "the permanent results of Fichte's activity have been absorbed in the more comprehensive elaboration of the Kantian principles which makes up the philosophy of Hegel".

A. Seth.

Hindū Philosophy. The Sānkhya Kārikā of Īśwara Krishṇa. An Exposition of the System of Kapila. With an Appendix on the Nyāya and Vaiśeshika Systems. By John Davies, M.A. (Cantab.), Member of the Royal Asiatic Society. London: Trübner, 1881. Pp. 151.

In this interesting and suggestive little book we have much compressed information and comment of an admirable kind. It is a compendium of Hindu Philosophy, based on a new translation of the disciple Iswara Krishna's Exposition of his master Kapila's "Sankhya" or rationale of the universe. The *Karika* or exposition consists of 72 distichs; and between these Mr. Davies has inserted a connective tissue of explanation and comment, with a fringe of philological and philosophical footnotes for further elucidation. The translation is in some respects an improvement on Colebrooke's, showing more speculative insight, and a more delicate handling of the fragile subtleties of Hindu thought. The notes and comments exhibit very considerable and, in the main, correct appreciation of the affinities and affiliations of western and modern philosophies to the Sankhya. In them lies the main interest of the book. They call attention in a very striking manner to the apparently spiral secular movement of human thought, wherein as centuries pass Buddha appears abreast of Kapila, and after two millennia the German pessimists, in line with both. The movement is not circular. The ancient and modern standpoints do not quite coincide. While Kapila is an irreconcilable pessimist, regarding conscious life intolerable on any terms, and seeking relief, yet, unlike the Germans, he is a dualist in his ontology, assuming two distinct and independent entities—"Soul" and "Nature". There are many souls, but only one "nature" or Prakriti. Soul is the pure indeterminate Ego or subject—a thing-in-itself and by itself—characterless and inert—aloof even from "intellect," "consciousness," and "mind," for these and all else fall without it as objects, which together constitute "*manifested* nature," Vyakta. But Prakriti or Pure Nature is equally undetermined and without character or quality (Avyakta). "It is eternal, universal, without parts, invisible, and is *inferred only by reasoning*"—and, therefore, noumenon. It can scarcely be called as by our author, "primordial matter," for it is the mere possibility of both matter and phenomenal or objective mind, just as "Atman" or "Jna," the soul is the barren possibility of a knowing subject. There are these two permanent possibilities; but as yet nothing *exists*. There is no seer and naught to be seen—only the eternally distinct and isolated grounds or possibilities of these have, in some ineffable way, *being*. From troublous painful *Daseyn* to this *Seyn* reposing delicately poised on the edge of nothingness, the soul seeks to return. Hence the motive of philosophy, Sankhya, or discriminative reflection. For, if the pure subject, which the soul essentially is, can but once bring itself to see that it has no part or lot in any object, that all objects are utterly alien from it, the spell will then for ever be broken that has entangled it in the net of grosser and subtler objectivity (Vyakta), which world, body, brain, and consciousness are.

But how has the net come to exist, and the soul to be caught in it? Apparently through the unlucky neighbourhood of the two eternal self-identical beings. For the homogeneous Prakriti had within it unawares three possibilities of heterogeneity, and by something

like electro-magnetic induction, if so gross a figure may be used in this transcendent connexion, the mere proximity of the soul aroused these possibilities into actual and active difference. "So Prakriti is changed into the principle called the Great One (Buddhi, intellect)."

But it is not to be supposed that this occult quasi-solicitation implies desire or will or effort or force on the part of either eternal being, though it may be as if Prakriti had said, "I want to be seen," and Atman, "I want to see". There is no "will to live" or desire to be manifest here, as in the German pessimism. And there is no force, persistent or casual, in the Sankhya, as there is with Mr. Spencer. In reflection, Kapila could only discern movement, and was content. Anything more was, perhaps, too difficult to find.

The book of genesis is now opened. Buddhi begets "Consciousness," which first procession reminds Mr. Davies—but as I think rather doubtfully—of the Cartesian "Cogito ergo sum". Nor can I see how this "Consciousness" only-begotten of "intellect" can be "nearly equivalent to the mind-stuff" of Prof. Clifford.

Considering its origin, it is more like a stage in the Hegelian evolution of thought into externality. And I do not see with Mr. Davies that any trace of Hegel there might have been in Kapila has been obliterated by his transcendent dualism, for there is the same absolute equipoise and opposition of subject and object in the Hegelian synthesis. Synthesis, in fact, necessarily implies such.

From "consciousness" proceed "sound, touch, smell, sight, taste," and the rest of the world and man. Are we to take this as metaphysic or cosmogony? Perhaps both. Finding in his reflection the nature of things to be consciousness, Kapila may very easily have taken that for a discovery of how things came to exist. But let it be metaphysic, and we have the world as phenomenon or representation, and there is a dim foreshadowing of Kant. The cosmic harmony and unity is effected by the mediation of intellect or thought. Buddhi may be the *locus* of the Kantian catagories; and Manas (mind?) which is with Kapila a further precipitate of Buddhi, and another intermediary, reminds one of Kant's schematising imagination. It can scarcely be as Mr. Davies seems to think, sensorium or central brain. With Kapila, the derivation is always downwards from thought. And even if it may be said that with him, in the *order of knowledge*, "nihil est in intellectu quod non prius fuerit in sensu," yet we cannot agree with Mr. Davies in associating Kapila with materialistic sensationalism; for always with him, in the *order of existence*, nihil est in sensu quod non prius fuerit in intellectu. For the same reason, the quotations from Dr. Maudsley are not apt illustrations of the text; and "the spiritual body" of the authors of *The Unseen Universe*, though composed of highly attenuated matter, is rather too gross a companion for Kapila's "Linga," which is the permanent envelope of the pure subject whilst it *exists* and migrates —the innermost core, as it were, of the empirical Ego.

Again, it is surely a mistake to compare Kapila's soul to "the absolute Ego of Fichte," which is genetic and single—the one creative

ground of all that is. Even if Kapila had not rather gratuitously assumed many souls, there would remain the coeternal and uncreate object, constituting a polar dualism which is more suggestive of Schelling, in one of his many phases, and of Hegel. May I venture to say, by the way, that Hegel cannot be quite fairly represented by quotations from Morrell and Chalybäus?

In an interesting appendix Mr. Davies succeeds in showing that, apart from Kapila's assumption of an eternally detached and independent soul, he almost coincides with Spinoza. Prakriti corresponds to "Natura naturans"; manifested, it is "natura naturata"; and these two are one, only distinguished as essence and phenomenon (or Maya), but not separate.

Of course we must take Kapila as we find him; and no doubt as he stands out for us in this *Karika*, he is dualist and atheist. Yet, a very little gentle manipulation might exhibit his implicit monism, and bring him nearer to Spinoza. As *existents*, the many souls and the one Prakriti are one co-existence, the unity of Being and Knowing: and as *pure beings*, they are absolutely indistinguishable from one another and from naught. For thought, they collapse into one, and that one sinks into non-being. What then remains is Vyakta, the phenomenal world of subject and object, co-existent, co-essential, and inseparable in their utter contra-distinction. And this residuum of Kapila exactly corresponds with the residuum of Spinoza, when his infinite attribute of thought or consciousness has absorbed and superseded all the other infinite attributes, rendering them gratuitous and otiose hypotheses—a result that is inevitable in the dialectic of reflection.

The main agreements and differences between Kapila and modern German pessimism have been pointed out. Mr. Davies enters fully into them in his last appendix. It only remains to signalise the last difference. With Kapila the end is differently brought about. Emancipation comes to him from pure contemplation or *gnosis*. This is put in graceful form towards the end of the poem.

"As a dancer, having exhibited herself on the stage ceases to dance, so does Nature."

"Nothing is more modest than Nature. Saying 'I have been seen,' she does not expose herself again to the view of the soul."

"'It has been seen by me,' says the one, ceasing to regard: 'I have been seen,' says the other, and ceases to act."

J. Burns-Gibson.

Les Maladies de la Mémoire. Par Th. Ribot. Paris: Germer Baillière, 1881. Pp. 169.

This little volume, the main conclusions of which were given in Mind XXII., 296, is an opportune presentment of the latest results reached in the physiology and pathology of Memory. It has an equal interest for the psychologist and the alienist. It is marked by accuracy of statement and caution in reasoning. It brings together a large number of curious facts; and it seeks to interpret

these by a skilful use of the most plausible current hypotheses of physiological psychology. In this notice I propose to confine myself to one or two points of special psychological interest raised by M. Ribot.

After the manner of contemporary physiologists the author extends the meaning of the word memory, regarding it as an endowment of the organism as a whole. According to this view consciousness is only an accidental accompaniment of the process of recollection. The essential thing is the trace or modification left in the nerve-elements (the "statical base"), and the connexions formed between different elements ("dynamical base"). M. Ribot, by the way, thinks (p. 14) that the second condition has not yet been recognised, though this is hardly correct, I imagine, with respect to English psychologists. The arguments in favour of the multiplicity of these "dynamic associations" are well put, and coincide with those recently employed by G. H. Lewes, as well as by Mr. Cyples in support of his theory of the "neurotic diagram". What accounts for memory ever being a process of conscious recollection is the presence of certain physical conditions, namely, the intensity and duration of the central actions. All this is, I think, just and indisputable. But is this enough? Given certain nerve-structures modified and connected in a particular way, is the whole of the phenomenon of conscious recollection straightway explicable? On the psychical side, to recollect is to pass from the present to the past, to reconstruct a piece of past experience by help of some present psychical fact. This is something more than the "recollection" involved in perceiving a familiar colour or tone. In the act of recollection there is a process of antithesis, a setting up of a past over against the present, and yet the grasping of this past through some present representation, analogue, or 'link of similarity'. How do physiological conditions help us to seize this fact? M. Ribot simply says (p. 29) that in the case of conscious recollection the dynamic nervous associations play a much more important part. Here he seems to me to overlook the fact (only in appearance ever lost sight of by Professor Bain in his separation of the laws of Contiguity and Similarity), that memory always sets out with the identification of a present with a past similar mental state. How conceive this act of identification on its physical side? How much can physiology tell us as to the conditions of this consciousness of something past and recovered? May not its function be limited to defining the differences of conditions according as the act of recollection is now little more than an identification, as when I see a person, recall our last meeting, but only vaguely represent the attendant circumstances; or now is largely a moving away to contiguous circumstances as when a name calls up a whole visual picture of a place once visited? This seems to me to be the nut that wants cracking in the physiology of memory. M. Ribot's ingenious attempt, on the lines of M. Taine's well known speculations, to fix the conditions of definite localisation in the past, does not meet my difficulty, which applies to all recollection alike. May not the omission, if it is an

omission, be due to a momentary adoption of the present fashionable under-estimate of the method of introspection? By all means let us have a thoroughgoing physiology of mind. But let us remember that it is *mind* which we desire to explain, and let us ascertain what this contains by the most painstaking subjective analysis, and never slur over difficulties by falling back on the unscientific notion that the conscious operation is an accident, which we may as well leave out of sight in framing our theories. M. Ribot is too good a psychologist to follow E. Hering and his yet bolder English imitators in a complete assimilation of 'conscious' and 'unconscious' memory. Yet his keen desire for the scientific illumination which modern physiology appears to promise, seems to me to have led him to make too light of the special problems which first arise when we reach those complex conscious operations which scientific psychology, following popular psychology, has so far at least marked off as "remembering".

But M. Ribot may justly say that, his book being concerned with diseases of memory, he was not bound to give an exhaustive account of the normal processes. Looking at his work from this point of view I find in it much to admire, and hardly anything to criticise. Subjects like the derangement of the sense of identity and the illusory feeling of familiarity in new objects are treated with great freshness, and with a full knowledge of the facts of disease. I miss one or two points; for example, the curious disturbances in the sense of duration which sometimes appear in mental disorders. I may be allowed in closing to express a regret that M. Ribot's interesting monograph did not reach me in time to profit by it in my own recent labours in the same direction.

JAMES SULLY.

Die Theorie der Erkenntniss oder die logischen Gesetze. Von Dr. HERMANN SCHEFFLER. Leipzig: Förster, 1880. Pp. 930.

This extensive Third Part of the author's huge work *Die Naturgesetze u. ihr Zusammenhang mit den Prizipien der abstrakten Wissenschaften*, mentioned in MIND XXIII., 447, begins with the principles of science generally, and ends with a lengthy application to psychology, ethics, and social and political science. I cannot here attempt even an analysis of so large a scheme, and will merely give a few extracts and remarks sufficient to indicate the character and aim of the work so far as its more strictly logical principles are concerned.

In indicating his departure from Kant as a sort of starting-point, he substitutes for the well-known four heads of categories of that author five "Categoremata of Concepts": *viz.*, Quantity, Inherence, Relation, Quality, and Modality. The analogy of each of these with a corresponding element in mathematics is worked out with great minuteness. Of these five, Quantity is taken in the ordinary sense, and forms the analogue of Quantity in mathematics. Inherence means the relation which a concept bears to some starting-

point from which it may be considered to proceed, and is regarded as analogous to Position in geometry as referred to an origin. "Its grammatical expression is predication or assertion. . . . When we say 'the green tree,' or predicate greenness of the tree, we express by this predicate *green* that the tree, which without a predicate might have been represented, say, by a figure ABCDE, is, with that predicate conceived as transferred parallel to itself to the position A′B′C′D′E′" (p. 60). Thus the vector AA′ represents the effect of the predicate *green*. This process may be carried on repeatedly, and in a positive or negative direction. "The expression, Charles was clever and handsome but not rich, contains a double forward step and a single backward one" (p. 77).

The third Categorema is Relation. This corresponds to geometrical Direction, and signifies the relation of one object to another. It is consequently a wider conception than that of cause and effect. Scheffler has an elaborate scheme for representing these relations by means of angles, which gives occasion to above a hundred pages of explanation and illustration by means of exponential expressions, the various roots of $(+1)$ or (-1) and all the rest to which one is accustomed in mathematical treatises upon such subjects. One example must suffice (the reader who is likely to follow it at all will probably be able to do so without a figure): Taking A as origin and Ac as axis, "let the angle $BAC = a$ represent a certain causation, *viz.*, that of begetting. Then AB is the begetter, AC the begotten, and the line CD which is the equivalent geometrically to a line transferred from the primitive direction AX along AC, . . . corresponds to the concept one who is begotten, say Alexander (CD) begotten of Philip (AX)" (p. 104). This employment of angular relation and its notation lends itself of course to the expression of repeated, and of inverse, conditions of relation.

The fourth Categorema is Quality, and its arithmetical analogue that of Powers. "Picture an individual, say a horse. It appears as a complex of connected conditions. Each of these forms a special or possible state of the concept to which we give the name of horse. This concept itself embraces what is common to them all, corresponding to a geometrical line which embraces all the points assigned under a certain condition. As a line has one more dimension than a point, or is a magnitude of a higher geometrical quality, so does this horse represent a conception of higher logical quality than any particular state in which the horse can appear to us" (p. 200). Or, more in detail, "there are four primary qualities corresponding geometrically to points, lines, surfaces, and volumes, and arithmetically to the four powers λ^0, λ^1, λ^2, λ^3. These four logical primary qualities are, Being as an observed condition, as a concrete individual, as an abstract concept, and as an ideal concept" (p. 213). The fifth Categorema is Modality. His use of this term departs still more widely from the usual, either scholastic or modern, sense of it. "The manifold of representations which is combined into a single cognition, into a logical whole, into a system, represents a law, and the Modality indi-

cates a formal or systematic connexion of the logical components of a cognition, consequently the dependence which exists between the elements of a system." "The arithmetical analogue of Modality is the function $y=f(x)$, or the law of connexion between the magnitudes such as x and y: the geometrical analogue is form or figure: the mechanical analogue is a system of forces (p. 229).

Like most of those who adopt mathematical notation in logic, Scheffler is forced into the consideration of extreme or limiting cases. His solution of these does not seem to me to be always very happy; the employment, for instance, of the vector notation leading us to the interpretation of two contradictories as bringing us back to our starting-point. Thus he interprets the expression "a future past" as placing us at the mathematical origin of the concepts of future and past, *i.e.*, the present. "A face which is at once ugly and beautiful is still a face, but stands, so to say, at the starting-point of those forms which are capable of making an impression" (p. 291). The reader will probably remember that, on the English or Boole system, two such statements as 'x is y,' 'x is not y,' combined together are interpreted as simply annulling x altogether.

As one would expect, there is a large resort to geometrical diagrams for the illustration of propositions, and these are of very varied kinds. (There are some 250 of such examples in the more purely logical parts of the treatise.) Those which are mainly employed are the familiar Eulerian diagrams, in which circles or other closed figures mark the outcome of the proposition by their mutual relation to one another in the way of inclusion and exclusion. On one occasion, in discussing an example cited by Schröder from Boole, he resorts to the plan which I recommended (I presume about the same time) of drawing figures to represent, by their mutual intersections, all the possible combinations, and then shading out those which by the conditions of the problem are found to be annulled (p. 742). The four successive powers, as he regards them, *viz.*, of states or conditions, of concrete objects, of genera, and of totalities, are also represented diagrammatically by points, lines, surfaces, and volumes.

His algebraic representation of propositions seems to me substantially identical with that of M. Delboeuf and Mr. Murphy (whom he does not refer to:—for that matter there are almost no references to other logicians except to J. S. Mill, and now and then to Ueberweg). His most general expression for the relation of the subject a and the predicate b is $a-y=b-x$. That is, he adopts the addition or subtraction form, as opposed to the multiplication form; the common part, if any, of the extensions of a and b being represented by either side of the above equation. Call this part c; then by assigning various values of c in relation to a and b, we can obtain the propositions 'All a is b,' 'All b is a,' and various others. I have discussed this form of symbolic expression elsewhere, and will therefore only remark here that amongst other defects this form of it does not conveniently express the universal negative (as indeed Scheffler notices, p. 430). When the common part of a and b is put $=0$, we have the

identity $0 = 0$: what we need in fact is to introduce another symbol for not-a or not-b, as well as for a and b.

As regards the absence of almost any reference to, or quotation from, other logicians, this leads, I think, in some cases, to a good deal of superfluous exposition of what must be very familiar to some of his readers. To take but one example. There is much objection raised to the insufficiency and inaccuracy of what he calls "the scholastic form" of proposition, 'Some x is y,' (say rather the universal form of common speech employed by all logicians) on the ground that it does not distinguish between the cases of 'All y' and 'Some y' and a scheme is proposed to meet the difficulty. The familiar views of Hamilton, De Morgan, and so many others, do not seem to have come under his notice.

These short remarks are not intended to give any sort of abstract of the results arrived at by Scheffler, even in the more logical part of his volumes; but they may serve to give some hints of the character of the work. There is much that is original and acute in it, and the logician who is something of a mathematician can hardly fail, I think, to pick up valuable suggestions. But, speakly broadly, his analogies between Logic and Mathematics seem to me to be pursued into needless minutiæ, and in many cases to be really altogether fanciful.

J. Venn.

VIII.—NEW BOOKS.

[*These Notes do not exclude, when they are not intentionally preliminary to, Critical Notices later on.*]

History of Materialism and Criticism of its Present Importance. By Friedrich Albert Lange, late Professor of Philosophy in the Universities of Zürich and Marburg. Authorised Translation by Ernest Chester Thomas, late Scholar of Trinity College, Oxford. In Three Volumes. Vol. III. London: Trübner, 1881. Pp. 376.

For the present we only note the completion of this work of translation. On another occasion, now that Lange's book is fully before English readers, some attempt will be made to appreciate its importance. The present volume includes the last part of the section on "The Natural Sciences" and the sections "Man and the Soul," "Morality and Religion".

A Sketch of Ancient Philosophy from Thales to Cicero. By Joseph B. Mayor, M.A., Professor of Moral Philosophy at King's College, formerly Fellow and Tutor of St. John's College, Cambridge. ("Pitt Press Series.") Cambridge: University Press, 1881. Pp. xvi., 254.

In writing this scholarly and attractive sketch, Professor Mayor has had chiefly in view "undergraduates at the University or

others who are commencing the study of the philosophical works of Cicero or Plato or Aristotle in the original language," but also hopes that it "may be found interesting and useful by educated readers generally, not merely as an introduction to the formal history of philosophy, but as supplying a key to our present ways of thinking and judging in regard to matters of the highest importance". He stops short at Cicero and his contemporaries, regarding "Christianity as the true goal of the ethical and religious philosophy of the ancients," and seeing in the later Neo-Platonism such a mixture of Eastern with Western thought as makes it no more possible to be treated as a simple development of Hellenism than Christianity itself. In his view, "after the rise of Christianity, Christian and Pagan philosophy should be treated of together until the time when the West was again separated from the East and Western thought was crushed under the invasion of the barbarians".

The Critical Philosophy of Kant: Being an Introduction to the Study of the *Critique of Pure Reason.* By Archibald Weir, B.A. London: Swan Sonnenschein & Allen, 1881. Pp. 112.

This exposition of the Critical Philosophy, down to the end of the "Transcendental Dialectic," was written in connexion with a short work intended to serve as an introduction to the study of modern philosophy, but is published separately, as being too long for the plan of that work. It follows pretty closely the lines of Prof. Caird's well-known *Critical Account.* A short "Historical Retrospect" (pp. 14) and a general chapter on "Kant and Transcendentalism" (pp. 18) introduce the exposition in a thoughtful way.

The Essence of Christianity. By Ludwig Feuerbach. Translated from the Second German Edition by Marian Evans, Translator of Strauss's *Life of Jesus.* Second Edition. London: Trübner, 1881. Pp. 339.

"The first edition of this work was published in 1854, and, although a large one, has been long out of print. Many inquiries having been made for it since the recent lamented death of the translator, the publishers have determined to offer a second edition to the public, and have been advised to give it a place in their 'English and Foreign Philosophical Library'. It is an exact reprint of the first edition."

American Nervousness: its Causes and Consequences. A Supplement to *Nervous Exhaustion (Neurasthenia).* By George M. Beard, A.M., M.D., &c. New York: Putnam, 1881. Pp. 352.

Dr. Beard, whose views on Trance have repeatedly been brought before the readers of Mind (Nos. VIII., XV.)—and who, by the way, announces that he has now in the press a comprehensive work on that subject—here discusses in a characteristically racy manner the signs and causes of the physical condition of Nervous Exhaustion which he had treated medically in a former work. The condition is one which is so specially developed in the northern and eastern por-

tions of the United States that he calls it, not without a touch of national pride, American Nervousness. The subject for the most part lies beyond our scope; but attention may be directed to chapter iv. on "Longevity of Brain-workers and Relation of Age to Work". This particular subject, which has been long investigated by Dr. Beard, is included with the other in the present volume apparently because it is contended that the sufferers from "lack of nerve-force" have notwithstanding good chances of long life. Be this as it may—and Dr. Beard gives grounds for his assertion—his facts and arguments in regard to Brain-work, as performed differently at different ages but always promoting longevity, are worthy of note.

Origine de l'Homme d'après les lois de l'Évolution naturelle. Par P. Vernial, Docteur en Médecine, Membre de la Société d' Anthropologie de Paris. Paris: Germer Baillière, 1881. Pp. 139.

An attempt to prove that, both in physical and in moral respects, man is evolved from the lower animal forms. Clearly written, but, as the author allows, "un peu un ouvrage de compilation".

Études sur la Sélection dans ses Rapports avec l'Heredité chez l' Homme. Par le Dr. Paul Jacoby, Membre de la Société d' Anthropologie et d' Ethnologie, &c. Avec un tableau de tracés graphiques. Paris: Germer Baillière. 1881. Pp. 611.

This book treats with great ability and originality a question propounded in 1874 by the Madrid Royal Academy of Medicine—as to Selection in its relations with Heredity in Man. The author, who has already won distinction by a series of medico-psychological studies published within the last twelve years, conceived the idea that the question could best, or indeed could only, be answered by confining the inquiry to two particular forms of selection—selection by exclusive social position (as of governing families), and selection by intelligence and talent. Many other forms of selection obtain among men (maintenance of standing armies, &c.), but in such wise as to exclude the influence of heredity.

In examining, then, the inherited effects of selection by way of "Power," it seemed to Dr. Jacoby, as an alienist by profession, that he might best make an exhaustive study, from the medico-psychological point of view, of the degeneration of the various branches of the Julian family, from Caesar to Nero, in the light of the abundant records supplied by the Roman historians. This he carries through with the utmost particularity and, in general, with remarkable force and insight from p. 8 to p. 319 of his work. A concluding long chapter in the first part of his work (pp. 320-430) treats more summarily, from the same point of view, the dynastic histories of Italy, Spain, Portugal, France, and England, till the 18th century; and the inquiry will be resumed for the 18th and 19th centuries, on the minuter scale, in another volume about to be sent to press.

The investigation of selection by "Talent" is conducted in a way

no less original. Starting from the general opinion as to the effect of civilisation in fostering insanity, and more especially from the positions of Lélut and Moreau (of Tours) as to the connexion between superior mental power and liability to neuropathic (psychopathic) affections, he brings all the resources of statistical science to bear upon the interpretation of a list he has drawn up of all the more distinguished men produced in the different Departments of France throughout the 18th century. The more particular object of the inquiry is to discover a relation between the appearance of superior talent and superior civilisation as assumed to depend on the two elements of general populousness and predominance of town over country within a certain area; such civilisation being proved to have determinate effects upon the life, physical and moral, and upon the propagative power of individuals. It is impossible here (or at least now) to give account of the painstaking way by which Dr. Jacoby has to reach his conclusions, but it is due to the magnitude and importance of his research that these should be given in his own words:—

"Ainsi, dans la population d'une contrée, d'un pays, il s'établit un courant constant des campagnes vers les villes, et des petites villes vers les grandes, courant qui apporte à ces dernières toutes les forces vives du pays. Il en résulte une sélection des talents, des capacités, des énergies et des intelligences au sein des villes, et cela au détriment des campagnes—sélection dont la conséquence immédiate est d'élever avec une rapidité toujours croissante le niveau intellectuel des villes et de baisser celui des campagnes. Mais parallèlement aux talents, aux capacités, aux énergies, croît aussi dans la population urbaine l'élément névropathique, qui se manifeste très diversement, et qui conduit fatalement aux psychopathies, aux grandes névroses, à la mortalité enfantine, et finalement à la stérilité et à l'extinction de la race. Nous avons vu déjà que tel était le résultat de la sélection par privilèges sociaux et par inégalité politique et économique, inégalité et sélection qui produisent l'ignorance et la misère en bas, la folie, le crime et la sterilité en haut. Maintenant nous avons étudié la sélection des privilèges intellectuels et moraux, que l'homme reçoit non de la société, mais de la nature, et nous voyons se produire, comme conséquence de cette sélection, un résultat également triste pour les deux couches en lesquelles se divisent ainsi les populations: nous voyons les capacités, les talents, l'énergie, l'activité, mais aussi les maladies nerveuses, les phrénopathies, le suicide, la mortalité des enfants, la sterilité, et finalement l'extinction de la race, ce résultat nécessaire, inévitable de la dégénérescence, se produire dans les villes, et l'ignorance, la stupidité, la bêtise, devenir l'apanage des campagnes."

Die Erscheinung der Dinge in der Wahrnehmung. Eine analytische Untersuchung von C. F. Heman. Leipzig: Hinrichs, 1881. Pp. 170.

This essay, hailing from Basel, is evidently the work of a Catholic pen. The author sifts with critical intelligence the results of the later investigations of sense-perception from the physiological side, and seeks to show that, when truly interpreted in the light of what perception really is—a purely psychical process, they imply a view of things essentially different from that of modern Idealism, more especially as elaborated by Kant, and related rather to the earlier

Scholastic doctrine. The general conclusions of the essay, which deserves attention, are thus given:—

"(1) Sense-perception is a principle of true knowledge, for it reveals to us the existence of real things.

"(2) Sense-perception is a principle of true knowledge in this respect also, that in it an Intelligible becomes manifest (as sensation), whereof the understanding could never have ken without sense-perception.

"(3) Because the Intelligible, appearing as sense in perception, is such that our understanding can know and grasp it as intelligible; because, thus, the principles of understanding have application to something objectively real;—our ideas of things are no mere subjective constructions of intellect, but there corresponds to them something objectively real, namely, that which as objectively intelligible underlies the percept and is its objective, productive principle."

Commentar zu Kant's Kritik der reinen Vernunft. Zum hundertjährigen Jubiläum derselben herausgegeben von Dr. H. Vaihinger, Professor der Philosophie an der Universität Strassburg. Erster Band, erste Hälfte. Stuttgart: Spemann, 1881. Pp. xvi, 208.

This first instalment of a work that will receive later on the critical appreciation that is due to the extraordinary diligence and ambitious purpose of the author, breaks off the Commentary in the middle of the Introduction to the *K.d.r.V.* Before the Introduction, the Preface to the First Edition has about eighty pages devoted to its elucidation; the Preface to the Second Edition being left over to the end of the whole work, as requiring for its proper understanding a knowledge of the *Kritik* itself. The Commentary is led up to in a "General Introduction" (pp. 1-22), treating of the historic and present importance of the *Kritik*, and reviewing the literature it has evoked; followed by a "Special Introduction" (pp. 23-70), defining Criticism in relation to Dogmatism and Scepticism. In his preface, Dr. Vaihinger announces his aim to be the application to the *K.d.r.V.* of the same methods of interpretation that have been applied by such men as Bonitz and Waitz to works of Aristotle's. Continuous and exhaustive interpretation of the text; collation of parallel passages; critical sifting and working-in of all previous exegetic materials; exploration of Kant's historic standing-ground; internal criticism; thoroughgoing reference to the polemical literature; indication of points of connexion for later thinkers, as also of the developments and transformations of the Kantian doctrine in relation to the moot-questions of modern philosophy; discussion of the great controversies as to the aim and method of the *K.d.r.V.*, comparative value of the First and Second Edition, &c.; revision of the text; and provision of indexes, with a bibliography—these are the main features of the Commentary as it will be carried out. As Dr. Vaihinger concludes his preface with a request for bibliographical information, his attention may be directed to the most serious omission, so far as this country is concerned, in his preliminary survey of Kantian literature. He makes no mention of Thomas Wirgman who (as already noted in Mind XV.) contributed to the *Encyclopaedia Londinensis* from 1812 to 1825, in five articles —'Kant,' 'Logic,' 'Metaphysics,' 'Moral Philosophy,' 'Philosophy'

—a more elaborate exposition of the *K.d.r.V.* and other of Kant's works than could be read in English till the last few years.

Nachträge zu Kant's Kritik der reinen Vernunft. Aus Kant's Nachlass herausgegeben von Benno Erdmann. Kiel: Lipsius & Fischer, 1881. Pp. 59.

After the beginning made of Dr. Vaihinger's comprehensive *Commentary* in celebration of the first appearance of Kant's *Kritik d.r.V.* one hundred years ago, one other of the many *Gelegenheitsschriften* of the year should not be passed over without a word of notice. Dr. B. Erdmann, who of late has been so much in the front among editors and critics of Kant, here prints, for the first time, the series of notes in Kant's handwriting found in his copy of the First Edition preserved in the library of the University of Königsberg. They were used only to a small extent in the second edition of 1787, though written down, it can hardly be doubted, in the intervening years from 1781. Their value lies more in the clearing up of particular passages than in any new light they throw upon the development of his ideas within the period.

Kleine Schriften. Von Christoph Sigwart, Professor der Philosophie an der Universität Tübingen. 1te u. 2te Reihe. Freiburg i. B. u. Tübingen: Mohr, 1881. Pp. 286, 255.

Most of the essays here brought together have already appeared in print, either in journals or University-programmes, but the collection is much to be welcomed. The First Series is of biographical subjects, all except the last (on Schleiermacher) belonging to the transition-period preceding the modern era—in the following order:—(1) Cornelius Agrippa von Nettesheim, (2) Theophrastus Paracelsus, (3) Giordano Bruno at the Bar of the Inquisition, (4) Thomas Campanella and his Political Ideas, (5) Johannes Kepler. Of these, the first two sketches now appear for the first time. The subjects of the Second Series are—(1) The Moral foundations of Science, (2) The fight against Final Cause, (3) Our notions of Space- and-Time-quantities, (4) The notion of Will and its relation to the notion of Cause, (5) The Differences of Individualities, (6) Vanity. The fifth paper carries out some ideas that were expressed in the author's article on "Temperaments," in the *Pädagogische Encyclopädie* of Schmid &c. One or two of the others were delivered as lectures, and have not before been printed.

Reden u. Aufsätze. Neue Folge. Von Gustav Rümelin, Kanzler der Universität Tübingen. Freiburg i. B. u. Tübingen: Mohr, 1881. Pp. 624.

The author has the official duty of delivering an oration before the University of Tübingen at a yearly prize-distribution. The present volume takes up the series of orations from 1875, earlier ones having been collected in a previous volume. They range over the following subjects:—Connexion of Moral and Intellectual Training;

Psychological Assumption of the Right to Punish; Division of Labour in Science; Laws of History; Nature of Custom; Idea of Justice. The Essays, filling more than two-thirds of the volume, are of a social or political cast.

Lichtstrahlen aus Ed. v. Hartmann's Sämmtlichen Werken. Herausgegeben u. mit einer Einleitung versehen von Dr. Max Schneidewin, Oberlehrer am Gymnasium zu Hameln. Berlin, Duncker; London: Trübner, 1881. Pp. 341.

A daintily printed Hartmann Anthology, the extracts being taken from the whole range of the philosopher's works and disposed under seventeen heads from "Philosophy in general" to "Darwinism" in particular. The compiler writes an enthusiastic Introduction (pp. 34) in which he reviews shortly the scope of Hartmann's fourteen works great and small, and appreciates generally the nature and worth of the remarkable influence that has been exerted by a thinker who is still only thirty-eight years old. Great and extraordinary as the influence has been, Dr. Schneidewin does not conceal that it has hardly been maintained of late as it used to be; the second of the two greater works, the *Phänomenologie des sittlichen Bewusstseins* (1879), having, in spite of its more popular subject, by no means excited the same attention as the *Philosophie des Unbewussten*. The hope is expressed that the present collection of the philosopher's opinions may do something to increase the disposition to go to the works themselves.

Ueber die Principien der Aristotelischen Philosophie u. die Bedeutung der Phantasie in derselben. Von J. Frohschammer, Professor der Philosophie in München. München: Ackermann, 1881. Pp. 143.

The author, who was last engaged in demonstrating a certain anticipation of his own view of "Phantasy as ground-principle of the world-process" in the importance ascribed by Spinoza and by Kant to the faculty of Imagination (Mind XVII., 153), proceeds here to establish also a relation between his own and Aristotle's way of thinking. Not that Phantasy can be proved to be in Aristotle the proper principle of being, becoming and thinking: "but it can be shown that every Aristotelian principle contains a moment that assimilates its essence or activity to the essence and working of Phantasy (in the wider sense); and that a certain unity can be introduced into the Aristotelian doctrine of principles" from this point of view.

Rechtsphilosophie. Der letzte Grund des Rechts u. seine practischen Consequenzen bearbeitet unter Berücksichtigung der Möglichkeit ihrer Verwirklichung von S. A. Byk. Leipzig: Schafer, 1881. Pp. 244.

An *objective* investigation of the philosophy of Right, as opposed to either of the *subjective* conceptions of Right connecting it with Will or Utility. The author proceeds, upon an inductive comparison of acknowledged rights, to find the common element of them all. The

Philosophy of Right, following thus on the Philosophy of Rights, leads him finally to the Philosophy of State-rights.

An Essay on the Philosophy of Self-Consciousness, comprising an Analysis of Reason and the Rationale of Love. By P. F. FitzGerald. London: Trübner.

"The object of this *forthcoming* Essay is to show that the necessary subjective concepts of the understanding of the Ego have their ground in its actual being, they becoming in introspective reflection the data for universal conclusions concerning Being in the abstract, and furnishing the 'sufficient reason' for faith, love and hope in the Supreme Being, and consequently providing a satisfactory though transcendental solution of the problem of man's destiny; sensation and the sensuous universe being regarded merely as the conditions of spiritual manifestation."

IX.—MISCELLANEOUS.

Professor Hermann Lotze, whose migration from Göttingen to Berlin was chronicled in the last No. of Mind, has occupied Hegel's chair in the metropolitan university for but a few weeks. He had begun lecturing with great success on Metaphysic and Psychology, when going to Göttingen for the Whitsuntide holidays, he caught cold and, on his return to Berlin, died of inflammation of the lungs, aggravated by heart-affection, on the 1st of July. His health had been extremely delicate for many years, and it was only by the most sedulous care that he was kept alive for the accomplishment of so much work. Born at Bautzen on May 21st, 1817, he had just completed his sixty-fourth year, when thus snatched away from the new and wider career as a teacher that he had the courage to face. The other main dates of his life have already been given in an early No. of this journal (III. 363), when an attempt was made to characterise his remarkable and indeed unique influence on German thought in the present generation. The proper occasion to return to the lesson of his life will be when the promised and soon-expected translation of the first two volumes of his crowning work the *System der Philosophie* appears from Oxford. Unfortunately, it seems that his sudden death has for ever deprived the world of the third volume of the *System*, which (after Logic and Metaphysic in the first two volumes) was to treat, in conclusion, of Ethics, Æsthetics, and Philosophy of Religion. It had yet to be composed, and there do not even exist preparatory notes for it, Lotze's habit being to think everything out in his head before proceeding to write. The more is it then to be desired that the translators should not confine themselves to the two extant volumes of the *System* but should also give an English rendering of the *Mikrokosmos* (3 vols. 1856-64), which has been destined to remain now as the only finished exposition of Lotze's philosophic

thought but which also may be said to be fitted, by the artistic excellence of its form, to make his influence most widely felt. The German press has worthily appreciated the loss to the nation in the great thinker's death; more especially may be mentioned the articles in the daily *National-Zeitung* (Nos. 390, 92, 94) by E. Rehnisch, and in the weekly *Im neuen Reich* (No. 36) by H. Sommer.

The Aristotelian Society for the Systematic Study of Philosophy will resume its fortnightly meetings at 20 John Street, Adelphi, on October 10, when the President, Mr. Shadworth H. Hodgson, will deliver an address on "The Practical Bearing of Speculative Philosophy". The meetings will then be devoted to historical studies and "Distinction-work".

The Committee of the Zetetical Society, "founded in 1878 to furnish opportunities for the unrestricted discussion of Social, Political and Philosophical subjects," wishes it to be made known that it thinks of establishing at this time a specially Philosophical Section for the discussion, once a month, of questions in Metaphysics, Logic, Psychology, Political Economy, Jurisprudence, and Ethics. The annual subscription to be 5s., and members of the Section to be, for the present and provided there is room, admitted to the monthly meetings (held on different nights) of the general Society. As the fulfilment of the plan depends on the support promised, "ladies or gentlemen, likely to become members, are requested to forward their names at once (without in any way pledging themselves) to the Hon. Secretary, Mr. J. M. Fells, 68 Melbourne Terrace, Barnwell Road, Brixton, S.W., from whom any farther information can be obtained".

Mr. Daniel Greenleaf Thompson, of Brooklyn, N.Y., who has often written in these pages, has completed an elaborate "System of Psychology" (in two large volumes), which will appear next spring simultaneously in London (with Messrs. Longman) and in New York.

La Philosophie Positive, founded by E. Littré and G. Wyrouboff thirteen years ago, will now, after Littré's death, continue to be conducted on the same principles as hitherto, by MM. Ch. Robin and G. Wyrouboff.

Still another philosophical journal is announced from Italy, as soon to appear. It will bear the title *Rivista di Filosofia Scientifica*, to be directed by E. Morselli, R. Ardigò, G. Boccardo, G. Canestrini, G. Sergi.

The Journal of Speculative Philosophy.—Vol. XV., No. 1. Schelling—On Medicine and the Theory of Organic Nature (trans.). Hegel—On the Absolute Religion (trans.). Rosenkranz—The Science of Education (paraph.). W. T. Harris—Analysis of Rosenkranz's Pedagogics. Kant—Anthropology (trans.). Notes and Discussions, &c.

Revue Philosophique.—VIme Année, No. 7. J. Ochorowicz—Projet d' un congrès international de psychologie. A. Espinas—La philosophie écossaise au 18me siècle et les origines de la philosophie anglaise contemporaine (ii.). G. Guéroult—Du rôle du mouvement dans les émotions esthétiques (fin). H. Spencer—Le corps consultatif. Analyses et Comptes-rendus (W. Wallace, *Epicureanism;* J. Veitch, The '*Method*' *of*

Descartes, &c.). Notices bibliographiques. Rev. des Période. No. 8. P. Janet—Sur la valeur du syllogisme. A. Espinas—La philosophie écossaise &c. (iii.). P. Tannery—L'éducation platonicienne (iii.). Analyses et Comptes-rendus (J. P. Mahaffy, *Descartes*, &c.). Notices bibl. Rev. des Période. No. 9. H. Spencer—Les corps représentatifs. G. Tarde—La psychologie en économie politique. C. Bénard—La théorie du comique dans l'esthétique allemande. Analyses et Comptes-rendus. Rev. des Période.

La Critique Philosophique.—Xme Année, Nos. 21-31. C. Renouvier —De la justification de la méthode infinitesimale en géometrie: examen du système de M. Evellin (21); Politique et Socialisme: x., xi. La question du progrès: Burdin, Saint-Simon et Comte (22, 23, 27); Des jugements déterministes en politique (25); La philosophie de l'histoire de Just Muiron (26); La Philosophie de Spinoza (29), Les origines de Spinosisme (30), Descartes, Spinoza et Leibnitz (31) (*àpropos* of F. Pollock, *Spinoza*). F. Pillon—Le doute cartésien et le *cogito ergo sum* (24); Le principe cartésien de l' evidence et les preuves cartésiennes de l' existence de Dieu (26); Un mot sur l'enseignement obligatoire des devoirs envers Dieu (27-9).

La Filosofia delle Scuole Italiane.—Vol. XXIII. Disp. 3. T. Mamiani—Intorno alla Sintesi ultima del Sapere e dell' Essere. F. Tocco —Filosofia di Kant, Fenomeni e Noumeni. G. Zuccante—Del metodo di filosofare di Socrate. Bibliografia (R. Adamson, *Ueber Kant's Philosophie*, &c.). Notizie, &c.

Zeitschrift für Philosophie, &c.—Bd. LXXIX., Heft 1. G. Runze—Kritische Darstellung der Geschichte des ontologischen Beweisfahrens seit Anselm (ii.). J. Volkelt—Die Farben u. die Seele. J. L. A. Koch—Ueber das Unterscheidungsvermögen. Th. Achelis—Kritische Darstellung der platonischen Ideenlehre. Recensionen. Bibliographie.

Philosophische Monatshefte.—Bd. XVII., Heft 6. A. Stadler—Ueber das Verhältniss der logischen zur mathematisch-naturwissenschaftlichen Reflexion. Recensionen (F. Pollock, *Spinoza*, &c.). Literaturbericht. Bibliographie, &c.

Vierteljahrsschrift für Wissenschaftliche Philosophie.—Bd. V., Heft 3. P. Harzer—Leibniz' dynamische Anschauungen mit besonderer Rücksicht auf die Reform des Kräftemasses u. die Entwicklung des Princips der Erhaltung der Energie. E. Laas—Vergeltung u. Zurechnung (ii.). E. Kraepelin—Ueber Trugwahrnehmungen (Schluss). J. Bergmann—Erwiderung. C. Sigwart—Berichtigung. Anzeigen. Selbstanzeigen, &c.

Other Books, &c., received: J. Wilson, *Studies of Modern Mind and Character at Several European Epochs*, London (Longmans), pp. 444. J. Sully, *Illusions* (2nd Ed.), London (Kegan Paul), pp. 372. An Octogenarian, *Thoughts on the Source of Life*, London (Ridgway), pp. 17. J. G. Macvicar, *A Supplement to a Sketch of a Philosophy*, London (Williams & Norgate), pp. 16. G. M. Beard, *Nature and Phenomena of Trance*, New York (Putnam), pp. 31. F. S. Warneck, *Das Princip der Gleichberechtigung u. die modernen Emancipationsfragen*, Hamburg, Mitau (Behre), pp. 175. F. Michelis, *Die Lügnerin Germania*, Landsberg a. W. (Schönrock), pp. 26. E. Montgomery, *Zur Lehre der Muskelcontraktion*, Bonn (Strauss—Sep. Abd. aus Pflüger's *Archiv*, XXV.). E. v. Schmidt, *Entgegnung auf die Recensionen meiner Schrift "Die Philosophie der Mythologie u. M. Müller,"* Moskau (Liessner, &c.), pp. 21. M. Lazarus, *Erziehung u. Geschichte* (Schottlaender). M. Runze, *Kant's Bedeutung auf Grund der Entwicklungsgeschichte seiner Philosophie*, Berlin (Duncker), pp. 40. P. A. Romberg, *Filosofi och Religion*, Karlskrona (Apelquist), pp. 35.

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